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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

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EDITORIAL NOTES

CHRISTMAS GREETINGS.

This number of the JOURNAL completes the twelfth volume and is the end of another year. It has been a very large year indeed and filled with surprises and awful shocks. But we, on this edge of the world, can be very thankful for our position and for the fair degree of prosperity that has been vouchsafed to us. Trying times are with us and trying days are to come. To every member the JOURNAL wishes a Christmas present of courage and encouragement; look steadily toward the future as dispassionately as possible and remember our duties and our rewards in the knowledge of things accomplished, suffering aided and good done. We will all have to economize on some of our luxuries, but let us do it cheerfully and be thankful for the gift of peace that has been given to us to enjoy; just now it is a very rare and precious present.

NEVADA STATE ASSOCIATION.

At its last annual meeting, the Nevada State Medical Association made the CALIFORNIA STATE JOURNAL OF MEDICINE its official publication and beginning with the first of the year, the Association is to subscribe for it for each of its members. Elsewhere will be found a list of the officers, minutes of the last meeting, and some Nevada notes. There will be a special department for Nevada items and the JOURNAL will be glad to receive news items, etc., relating to happenings in that state. Also, the papers read at their annual meeting will appear as they are received and opportunity presents. There has always existed a very friendly feeling between California and our smaller but very progressive neighbor on the east and it is to be hoped that this present arrangement will serve to increase that feeling as time goes by.

A. M. A. MEETING IN JUNE; ARRANGEMENTS COMMITTEE.

Once more, a gentle reminder not to forget that the American Medical Association is to meet in San Francisco in the third week of June 1915; Monday, the 21st of June the House of Delegates has its opening session and Tuesday, the 22nd, the regular sessions of the Association begin their work. The General Session, open to the public, will be held in one of the down town theatres but all the scientific sessions, section meetings, etc., will thereafter be held in the Auditorium, at the Civic Center. Wednesday has been set aside as a memorial day, or public health day, to commemorate the work of the various scientists, living and dead, that led to the possibility of "digging the ditch." The arrangement of the program for that day has been placed in the hands of the President, Dr. Vaughan, the President-Elect, Dr. Rodman, and the Editor of the *Journal A. M. A.*, Dr. Simmons; probably the various exercises, ceremonies, etc., that may be arranged for that day will be held at the Exposition grounds, though nothing has as yet been announced. Dr. Philip Mills Jones, who is Chairman of the Trustees' Committee of Arrangements for the session in San Francisco, has appointed the local Committee of Arrangements as follows: Dr. J. Henry Barbat, Dr. Sol Hyman, Dr. William P. Lucas, Dr. Herbert C. Moffitt, Dr. Emmet Rixford, and Dr. George Somers. This Committee has met and elected Dr. Moffitt as Chairman and Dr. Sol Hyman, Secretary. It will appoint all the sub-committees and it is urged upon every member of the Society in San Francisco, to contribute his services if called upon to aid the committee; it will require quite a goodly number of active members to handle the situation properly.

TO COUNTY SECRETARIES.

As you know, the assessment per member for next year—1915—is fixed at $6.00 and is payable in January. All members must be reported and their assessment paid before March 1st or they lose their membership and their medical defense as from the 1st of January. In other words, all membership terminates on the 31st of December, but for convenience and practicability, members are carried as such till March 1st. At the close of this year, our State Society is bigger and closer knit than ever before, having nearly 2500 members. Notify your members that their dues are payable January 1st and that they must not forget this matter; it is of vital importance to them not to be delinquent when March 1st comes along; it may cost any one of them several hundred dollars, for suits for damages for alleged malpractice are increasing rather than decreasing. Send in your report of members and the remittance for their assessment as early in the year as you can, and thus greatly help the work of the State Society office.

THERE IS A PUBLICATION COMMITTEE.

A recent difference of opinion in the matter of the time of publication of a contribution sent in by a member of the Society disclosed the fact that some of our members do not know that there is a Publication Committee; there is, and a very active and important one; there has been ever since the JOURNAL began publication and it has always done splendid work, though most quietly and unostentatiously. Any member having cause of complaint is specially requested to address the Publication Committee, or any member of it, and he may rest assured that his complaint will be immediately considered by the Committee as a whole. In the case above mentioned, as soon as it came to the attention of a member of the Publication Committee that complaint had been uttered by a member, a meeting of the Committee was called and the gentlemen interested were requested to meet with the Committee and discuss the matter. It was fully gone into by the entire Committee. The editor of any periodical which is a popular medium of publicity, is always the object of denunciation by a number of people. Nearly everyone who submits an article for publication thinks it ought to be published in the very next issue; also, he thinks his article is of the very greatest value and importance. This is not always the case. Three classes of papers are submitted to the JOURNAL; those read at the meetings of the State Society, which are the property of the Society and must be published unless decided otherwise by the Publication Committee; those read at County Society meetings and sent in officially with the request for publication, and these are always published; and lastly, those written for publication but not read at any official medical society meeting. Of the last class, there are not many and they are submitted to two or three members of the Committee to read and pass an opinion upon; sometimes when there is doubt they go to all the members of the Committee. The Editor and the members of the Committee would like to publish all the good papers submitted immediately; but it is impossible to do so. Some papers are not as good as others, but we all dislike to reject a paper unless it is necessary and so a number of them are accepted and held for a time, waiting for the pressure of other and perhaps more timely papers to let up a bit and so give an opportunity to give them publicity. Thus it is that, as in every publication office, some contributions are held back for many months, though with our JOURNAL about a year is the longest time an article has been held back. And a delay in publication is not necessarily a reflection on the quality of the paper so delayed. Many things enter into the problem of publication. There may be an unusual quantity of matter on a certain subject or from contributors in a certain section of the state, in which event some of the papers must be held back to secure a more even distribution in the contents of the JOURNAL from month to month. The responsible editor of any periodical knows that he is and always will be subjected to a certain amount of harsh criticism; and also, he knows that practically all of it is unjust. We are doing the best we can to get all worthy contributions into the JOURNAL and as promptly as may be, but any contributor who thinks that he has cause for complaint is earnestly requested to address the Committee, or any member of it. The names of the members of the Committee are printed at the top of the first column of reading matter in every issue of the JOURNAL.

A WORD ON PAPERS.

While on the subject of contributions to the JOURNAL, it may not be out of place to reiterate some suggestions to authors; to some, they may seem trivial, but they are all very essential to acceptance and prompt consideration.

All manuscripts *must* be typewritten and on one side only of the sheet of paper.

Always leave a margin at the left of the page, at least an inch in width.

Never "single space"; always use the double space in typewriting a paper.

Read over the finished paper carefully and make sure of the correct spelling of proper names, publications quoted, etc.

Always spell words out in full; do not abbreviate like "temp." for temperature. Do not try any fancy stunts with "reviled spelling," such as "tho" and "thru," etc.

Buy a medical dictionary and satisfy yourself that all diphthongs, except for the terminal plural, are no longer used.

In making a quotation, be sure that the quotation marks are placed at the end as well as the beginning of the portion quoted.

Never roll a manuscript; send it flat or folded as many times as you like, but do not roll it. If you want to know why, just roll up some sheets of paper, leave them tightly rolled for a few days and then try to handle them!

Never paste cuts or illustrations on sheets in the middle of a paper. Send them in separately, properly marked with the legend you think should go under them, with your name on the back, and indicate in the paper where you would like them to go.

Put your name and city on the first sheet under the title of your paper. (It would surprise you a whole lot to know how many contributors forget to do this little thing!).

Number the sheets consecutively from first to last.

Case histories should be as carefully written as any other portion of a manuscript and no abbreviations used.

Ordinary bed-side charts, as frequently sent in, cannot be reproduced but have to be redrawn. Illustrations are seldom necessary if a paper is well and clearly written.

Don't think that your paper, unless it has some remarkable news value, will appear in the next issue after you send it in; we always keep enough papers in type to print at least three issues of the JOURNAL. But on this account do not hold your paper back, the sooner you send it in, the sooner it will be read and passed upon.

THE RIGHT SPIRIT AND THE RIGHT KIND OF HELP.

Here (infra) is a letter from an ex-president of the Society that tells its own story. This is the kind of co-operation that counts a whole lot. We have begged men to refer to the JOURNAL; to let us know if they are going to get an automobile; to correspond with advertisers, etc. Doubtless at the present time there are a number of members who will buy automobiles in the course of the next few months; if they would let us know, and let us know what kind of car they had in mind, we could get that car for them without it costing them a dollar more—and we could also get some more advertising for the JOURNAL. It is your own JOURNAL and by helping it you only help yourself. Can you not see it? Will you not do it? We have a number of new advertisements, in the last few months; Uncle Sam, Battle Creek, Betz (whose advertising copy is carefully gone over in the A. M. A. office), Calso water, and a number of others. Why not look them up in the JOURNAL and see what is offered you? And let the advertiser know!

"I want to compliment you on the Journal; I think you have had some dandy editorials lately and I think your criticism of the members of our Society for not taking advantage of the opportunity of helping the Journal is a very good criticism. It is probably a matter of indifference on the part of the members of the Society. I freely acknowledge it has been so with me and after reading the editorial I immediately filled out a coupon to the Battle Creek Sanitarium and to the Uncle Sam Breakfast Food and sent them in. I would suggest that it might not be a bad idea if you think well of it to call attention either editorially or some way in the Journal to new advertisements or special advertisements or any good opportunity for young men locating or exchanges of practice or anything of that sort.

"I speak of these things because I presume the average member is like myself, he rarely looks at the advertisements unless there is some particular thing that he is looking up for himself and the average busy practitioner if he wants an instrument, or a new automobile, is liable to go to those sources most convenient for him and it never occurs to him to look in the Journal and see how he can help the Journal along. If we could encourage them to look upon the Journal as a clearing house for the medical profession of the state irrespective of the membership, it would help very materially in encouraging those who have the acting management of the Journal, if it added to their labors."

GUARD YOUR MEMBERSHIP!

While it is true that "crime 46" did not pass and become a law, the very large number of people who voted for it show one of two things—either that a large number of voters think there should be little or no control over the qualifications of those who are to minister to the sick or injured, or that a great many people are ignorant of what they are voting for. The tendency of the times is sociologic unrest; resentment of any sort of control; let the individual do as he pleases. A large number of physicians are being licensed under this law who could not have been licensed under the former law. The barriers to the unqualified will probably be still further lowered, unless all signs fail. The time is rapidly coming, as the JOURNAL has said repeatedly during the last three years, when the only distinguishing mark of a properly trained physician will be membership in his County Medical Society. Therefore, every county unit should be very careful in the scrutiny of applicants for membership and should be equally careful in the scrutiny of the conduct of its present members. We must see that our societies are made up only of physicians of high character and good professional conduct; and this for the protection of all of us. The State Society office keeps track of all physicians who obtain licenses in this state and is constantly adding to the personal information about them. Every county society should send the names of applicants to the State Society office for investigation before they are elected to membership. It is, of course, possible that the law will be allowed to remain as it is; but it is doubtful. In all probability, greater "liberality" will be amended into the law by the next legislature, and that will make it still more imperative for us to guard well our county units.

UNREST IN NEW YORK STATE.

A circular has been received, which was apparently used as a campaign document in New York, as it is unsigned and has nothing to indicate where it comes from or who is responsible for it. It is nevertheless interesting as it shows so clearly that the spirit of unrest, of determination to remove standards of requirements in professional equipment is as rampant in New York, almost, as it is on the extreme western side of the continent. Also, the quotation from Governor Glynn's remarks, if true, and there is no reason to believe otherwise, is illuminating in the way of showing how *some* governors look at a high medical standard as protection for the people. The circular is, in part, as follows:

The Attention of Physicians is Directed to the Following:

Cheiropractic, Naturopathic, Osteopathic and Christian Science bills were presented at Albany last year. Two of them, which would have broken down every barrier which now prevents the practice of medicine by unqualified persons, were passed.

It was the courageous vetoes of Governor Glynn which alone saved the medical standards of which New York State has been so proud.

In speaking on this subject before the sanitary officers of the state in September, Governor Glynn said:

"While I am governor, no man will practice medicine in this state by simply hanging out the sign 'Healer.' I am opposed to 'heelers' in politics and I am against 'healers' in medicine, my friends.

"I believe in the preservation of high stand-

ards of medical education. If the legislature of this state has one great responsibility it is to preserve the medical standard of the State, and my efforts will always be directed to that same end."

ORIGINAL ARTICLES

"PRIMARY SARCOMA OF THE STOMACH; PRELIMINARY REPORT OF A CASE TREATED BY PARTIAL GASTRECTOMY." *

By THOMAS W. HUNTINGTON, M. D., San Francisco.

Frazier[1] states that primary sarcoma of the stomach was first discovered by Bruch, in 1857. Virchow, in 1864, referred to three cases, and Tilger, in 1893, was able to collect only 20 cases. Hesse,[2] in 1912, collected 235 cases of sarcoma of the stomach. Of this series, 160 were primary. His paper is exhaustive, containing much statistical information, and a very complete bibliography.

Scudder[3] reports one advanced case treated, successfully, by a three-stage operation. From various sources I have found reference to about 200 cases, some of which were not operated; others were discovered at autopsy, and it is not certain that all occurred, primarily, in the stomach.

Mayo-Robson[4] is of the opinion that more careful scrutiny of gastric malignant cases would appreciably augment the number of primary sarcomata. Nevertheless, the disease must be regarded as of exceedingly rare occurrence. In a single case, recorded in the publications of the Mayo clinic, Dr. Wm. J. Mayo[5] states that "Sarcoma of the pylorus is so rare as to be a surgical curiosity."

No cases have been observed at the University of California or Stanford University clinics. McCleave, of Berkeley, reports one doubtful late case which was studied at autopsy.

Dr. W. I. Terry, of San Francisco, will report a sarcoma of the stomach treated by total gastrectomy.

Howard[6] has collected 11 cases of primary sarcoma of the esophagus, and Erdman[7] reports a case of annular sarcoma of the cardia which he removed successfully.

W. J. Mayo reports, by letter, that two cases have occurred at the Mayo clinic. One operated upon by himself, a man 38 years of age; duration of symptoms, 10 years; resection of stomach, tumor size of head, lying in pelvis. Patient died in six months from recurrence.

The second case, operated by Chas. Mayo; a man 43 years of age; duration of symptoms, 10 to 12 years; resection of stomach for intrinsic tumor, size not stated; mixo-sarcoma; patient well at the end of one year. The duration of symptoms, in both cases, 10 years or over, is peculiarly significant.

There seems to be no special predilection for sex. Early writers regarded it as an affection of the very young, ranging from two or three to 20 years.

Later observers find it distributed through all periods up to 70. Very many cases have occurred in the fourth, fifth and sixth decades.

*Read before the San Francisco County Medical Society, August 18, 1914.

Nearly all varieties of sarcoma are represented in a given series. The round-cell, spindle-cell, and mixed round- and spindle-cell types preponderate. Robson[4] states that the former occurs in 60 per cent. of cases. The growth originates uniformly in the sub-mucous layer, differing in this respect from carcinoma. It may occur in any portion of the viscus wall, from the cardia to the pylorus, though its favorite location is at the pyloric end. The tumor may be diffuse, presenting a more or less flattened appearance with a marked thickening of the involved area; or it may occur as a pedunculated affair, growing extrinsically from its original seat until it assumes formidable proportions. In the same manner, it may occur intrinsically and, in time, occupy a large portion of the visceral cavity.

Whether gastric ulcer is an important factor in sarcoma, as it certainly is in carcinoma of the stomach, is not fully determined. Incipient cases seem rarely to have been detected and studied, and doubtless, in those far advanced antecedent conditions, such as chronic ulcer, will have lost their identity or have become wholly obliterated. In my own case, the significance of a co-existing ulcer is obvious. There is, however, a doubt as to whether or not the ulcer, in this case, was post-hoc or propter-hoc. The clinical history and symptomatology present no distinctive features apart from those of cancer or chronic ulcer.

It is a matter of regret that evidence bearing upon end results in gastric sarcoma, treated surgically, is very meagre. Frazier[1] tabulates 29 operated cases with four immediate deaths. Twelve of this series were not traced. Of the 13 remaining cases, there were two recurrences at the end of eight months and three years, respectively. One was well at the end of 14 years; two, at the end of two years; two, at the end of one year; and two, at the end of nine months, and four cases were too recent to possess any statistical value.

The following case history is unique in that it relates, so far as I know, the earliest operation for sarcoma of the stomach on record. It furnishes an excellent text for the comments which are hereto appended:

Mrs. P. W., resident of San Francisco; age 67 years; consulted me first, June 21, 1914.

Family history: Mother died at the age of 42 years from breast cancer. Father died of chronic tuberculosis at the age of 52 years. Patient has three children, the youngest being 38 years of age. Collateral history, unknown.

Previous history: As a young girl was well and strong and has remained in that condition until about three years ago. Never had any serious illnesses, but three years ago began to notice that ingestion of meat caused some distress which led to an elimination of meat diet in later years. Has never had typhoid fever. No icterus.

Present history: Weight, 147 pounds. During the past six months, patient has lost six pounds. Six months ago, began complaining of distress in her stomach with slight nausea accompanied by a tendency to regurgitation of acid fluid. Never vomits her food, but an hour or two after eating, experiences a feeling of distress in the upper epigastrium. Has never noticed any discoloration of stools. Has daily bowel movements spontaneously. Patient feels certain that food remains in the stomach over an undue period. Is troubled with eruc-

tations of gas. Sleeps well and experiences no stomach distress during the night. There is evidence of moderate pyloric obstruction.

Patient looks slightly anemic, though her color is fairly good. Pulse rate, 78; red blood count, 3,900,000; hemoglobin index, 80; blood pressure, 143. Heart's action is normal. Abdomen is rounded and uniformly dome-like and resonant throughout. Superficial vessels are noticeable in the lower quadrants and slightly in the upper. At time of examination, several hours after eating, there was a definite splash in the gastric region, on palpation. No mass can be felt at any point and lymph nodes are absent. An area of tenderness, not very decisive, was found in the epigastric region, a little to the right of the median line and extending over a limited area, the size of the palm. Otherwise, abdominal examination is negative. Pelvic examination omitted. A marked excess of free and combined hydrochloric acid in gastric contents after test meal.

X-ray examination by Dr. Davenport is as follows: A marked residue in the stomach at six hours, also a persistent outline of the duodenum with bismuth at six hours, and it is still manifest in the twenty-four hour plate.

Dr. Davenport writes: "There are, probably, adhesions in or around the duodenum which cause this retention. Fluoroscopic examination shows stomach normal in size and quite movable in the upper region and at the fundus, but less so in the pyloric region. Peristalsis, active. Picture appears to be that of disease in the pyloric region rather than in the stomach itself."

A clinical study of the case impressed me deeply with the idea that the patient's symptoms proceeded from a somewhat unusual origin. The patient's mother died of cancer of the breast; a fact which, to my mind, merits very careful consideration, despite opinions to the contrary of many authorities, that heredity cuts little, if any figure, in the incidence of malignancy in a given individual.

There was lack of definiteness in the clinical picture. The main trouble seemed to have originated within a comparatively short interval extending over a period of six months, during which time her symptoms were not especially distressing. There was never any vomiting of food or evidences of hemorrhage in the stools. She suffered very little pain and only moderate distress, after the ingestion of solid food. Her appetite was fairly well maintained and her physical condition was such as not to attract attention, save in a very general way. There was a notable drop in the patient's strength and vigor.

The feature of the case which seemed of special significance was the existence of tenderness on pressure at or near the pyloric region. This was constant, and on the increase during the past two months. The patient's daughter was more insistent upon a careful analysis of the situation than was the patient herself.

The epigastric symptoms were constant, but pyloric insufficiency existed only in a comparatively moderate degree. There was, also, a slight loss of weight, six pounds in six months. The possibility of malignancy became more and more manifest in the course of the examination. So deeply impressed was I regarding this feature of the case that I repeatedly warned the patient's daughter regarding it.

Operation was advised and readily accepted. This was done at the Lane Hospital, June 24, 1914, three days after my first interview. Under gas ether anesthesia, the abdomen was opened through the inner border of the right rectus. The gall bladder was found to be quite large and slightly adherent to the omentum at its fundus. It was of normal color and free from calculi. It was readily collapsible. After separating one or two omental adhesions at the pylorus, an interesting condition was disclosed. On the stomach side of the pylorus there was discovered a rounded mass about the size of a cherry lying apparently in the sub-mucous and muscular coat of the viscus. Between the examining fingers, the peritoneum being tightly drawn over the mass, it presented a whitish, uniformly globular tumor. It was distinctly hard and resistant, therein not conforming to the tissue which is usually found as an inflammatory base of a chronic ulcer. The lumen of the pylorus was definitely narrowed, although I doubt if it could be recorded as a typical example of pyloric stenosis. Consequently, nothing short of a pylorectomy and partial gastrectomy was indicated. I sent for the daughter and obtained assent to the foregoing procedure.

About one-fifth of the stomach and fully an inch of the duodenum were included in the resection.

The time of the operation was shortened and the procedure greatly facilitated by the use of the Payr clamp, which I found to be a most valuable accessory in this undertaking. The divided ends of the stomach wall and the duodenum were enfolded and the suture lines reinforced. A formal posterior gastro-jejunostomy was then completed.

A word regarding the technic of this procedure is justifiable. Wm. J. Mayo has called attention repeatedly to the danger of post-operative hemorrhage proceeding from the lower margin of the anastomotic stomach incision. This incident can be avoided by the following technic: After adjusting the first one-half of the outer concentric suture, the stomach and jejunal margins were joined in the following manner: A double armed chromic suture was inserted through both walls to the middle point of the thread, the needle being passed first through the lower angle of the incision. Subsequently, both needles are passed in opposite directions through the engaged walls and drawn snugly (to be held by an assistant, temporarily).

From thence to the opposite angle of the incision, this technic was continued, stitches being placed about three-sixteenths of an inch apart, after the manner of a harness maker in the stitching of tugs. On reaching the opposite angle of the incision, the double suture is tied securely and one thread is cut away. This double suture line includes all the vessels which are apt to bleed actively for the few hours following operation.

The succeeding steps were carried out in the conventional way. During the entire undertaking there was no appreciable loss of blood.

Patient returned to bed in excellent condiiton. At no time was there any evidence of post-operative hemorrhage into the stomach, the patient thereby escaping all the distressing incidents from this source.

Her recovery was rapid and without incident. Patient left the hospital in splendid condition at the end of ten days.

On July 21, 1914, 27 days after operation, patient reported at the office. Weight, 138 pounds, a gain of seven pounds since she left the hospital. Eats chicken, fish, chops, and vegetables without pain or distress. Bowels move spontaneously. Has a good appetite and relishes her food. Strength is gradually increasing. Her general appearance is good.

August 18, 1914, patient reports as follows: Continues to improve and her condition in every sense is satisfactory.

Pathological findings: On sectioning the gross specimen, at time of operation, the pyloric orifice was found slightly contracted and rigid. In the mucous membrane, corresponding to the inner convex surface of the tumor mass, there was a small ulcer, the size of a split pea, apparently not very active. Otherwise the mucous membrane of the excised area was normal. The tumor was found to be a globular encapsulated mass, the size of a cherry, lying between the mucous and peritoneal coverings. On dividing it, it presented a yellowish white appearance, uniform in consistency throughout. The tumor shrank rapidly after division.

There was slight induration of the immediate surrounding structures.

The pathologist's report is as follows: (Laboratory of Prof. Wm. Ophuls, Stanford University Medical Department.) June 25, 1914. "Tumor, about the size of a bean, under the mucous membrane. Fairly well circumscribed; cuts rather firmly; cut sections, smooth, seem leathery, yellowish white in color.

"Section shows tumor to consist of very numerous, round, spindle-cells. Many areas show arrangement of cells in whorls. Here and there are collections of small, round cells. In places, cells in large numbers, invade the sub-mucosa. Some fibrous tissue present. Tumor is very cellular. Sections of tissue, taken at each extremity of excised specimen, show no invasion by tumor nodule.

"Diagnosis: Fibro-sarcoma of the stomach.

"(Signed) R. H. Major."

This report has, more recently, been confirmed by Professor Ophuls.

One of the disheartening features in this connection lies in the fact that very rarely is any type of gastric malignancy recognized by the diagnostician during that brief but critical period when radical measures offer much encouragement; this in spite of the fact that the progress of the disease is insidious and unceasing and its disastrous ending inevitable. Thousands of patients are, annually, subjected to late exploratory or palliative operations with little or no other purpose than to demonstrate the fallacy of unduly protracted investigation and over-faith in routine measures.

In view of this fact I am impelled to make an earnest appeal to the profession for a change of policy when dealing with suspected and border line cases.

To the injunction, which is, certainly, official, *"Observe* and *observe* and *observe,"* there must be appended the final and not less authoritative mandate, *"Observe wisely."* This means, if it means anything, fine appreciation of clinical evidence and large faith in an early inspection of the living pathology.

It happens altogether too frequently that patients, after a long and disheartening medical experience, pallid and attenuated, exhausted by starvation and hemorrhage, presenting a tumor mass which is unmistakable, are referred for operation. Too rarely does it happen that patients suffering from any type of gastric malignancy are surrendered by the internist while there is more than a ghastly hope of radical cure.

Despite the vast amount of time and energy and money that have been devoted to investigation of malignancy, one fact of clinical value has been determined, and but one, viz: that cancer is curable, and only curable when seen in its early stage. It is perfectly obvious that the diagnostician, in the presence of obscure visceral disease, must have his ear close to the ground to catch the faintest whisper of impending trouble. Furthermore, he should realize that a diagnostic incision may lead the way to an achievement.

In my opinion, closer communion and more thorough co-operation between the patient, the internist and the surgeon is to be encouraged.

It is an extremely delicate and often difficult task to convince the patient that his greatest, perhaps his only safety, lies in immediate operative interference. The average individual is wary of radical measures. During the early stages of a condition marked by obscure but suggestive symptoms, he is optimistic and uniformly pleads implicit faith in drugs, diet, a trip to the springs and a general medical regime. It seems reasonable that the surgeon's point of view could be presented to the patient more forcefully and convincingly by the surgeon than by the medical attendant or the consulting internist.

I am deeply impressed with the idea that when resort to surgery is suggested, he who is to assume the greater responsibility should have an early as well as the last word as to its availability.

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(4) Keen's Surgery, Vol. III, p. 296.
(5) Mayo Clinics, Vol. I, p. 72, 1909.
(6) Journal American Medical Association, Feb. 8, 1902, p. 392.
(7) Transactions of the American Association of Obstetricians and Gynecologists, Vol. LXIII, 1913.
(8) Mayo Clinic, 1911, p. 131.

Discussion.

Dr. Paul Campiche: I would like to congratulate Dr. Huntington on his interesting paper and ask just one or two questions. In Dr. Huntington's case, we see that there was a small nodule near the pylorus. If I remember well, the books teach us that sarcoma of the stomach is generally on the body and rarely at the ends of the stomach. I would like to ask Dr. Huntington if he made a vaginal examination in this case, or if, during the operation, he took the precaution to pass his hand into the pelvis and examine the ovaries. It has been shown that in young women sarcoma of the ovaries and of the stomach are often found together, and there is a possibility that this might be a secondary growth and not a primary. At least the patient should be kept under observation for a year before the case can be pronounced a primary sarcoma.

Dr. J. Rosenstirn: I listened with a great deal of pleasure to Dr. Huntington's very interesting paper, but I regret that he did not bring a microscopical section here for the examination of this tumor. The term "fibro-sarcoma" is a rather indefinite one, and I would like to see how much of a fibroma and how much of sarcoma the microscopical picture would show. The case is a very rare one, especially as to the early diagnosis and the character of the tumor. Dr. Huntington may well be proud of the excellent result of his operation. It would be well worth while, in the publication of this case, which undoubtedly will follow, to add a figure illustrating the microscopical findings, which we would have liked very much to see here tonight.

Dr. Huntington, closing discussion: There is very little to be said further. In regard to the question of Dr. Campiche, no pelvic examination was made prior to operation, as stated. During the operation the usual pelvic examination through the operative wound was made. There was absolutely nothing to be detected in the lower portion of the abdomen. The appendix was also carefully examined and found to be, as far as I could determine, normal.

With regard to the microscopical slides, I took the precaution to have them verified by Dr. Ophuls. It did not occur to me to exhibit the slides here. I should be glad to assist any one in having them exhibited if desired. They are preserved at the

Stanford laboratory and I am sure Dr. Ophuls will demonstrate them.

With regard to the term "fibro-sarcoma," I cannot quite vizualize the point made by Dr. Rosenstirn. "Fibro-sarcoma" is a well recognized clearly identified pathological entity. We do not need to go to the stomach wall for it. We find it in the ovary, in the uterus, and various other organs of the body. This, I think, is the first time I have ever heard the question raised as to the possibility of an error being made. Dr. Ophuls is thoroughly convinced of the malignancy of the tumor. The mass was apparently enclosed within a capsule, which is always a stumbling block, in my opinion, because we rarely find the original cell structure confined within the limits of the so-called capsule. Here we found that the cell structure had traversed the capsule and had invaded the tissue in its immediate environment.

BONE SPLINTING IN VERTEBRAL TUBERCULOSIS.

A YEAR'S WORK AT THE CHILDREN'S HOSPITAL, SAN FRANCISCO.

By HARRY M. SHERMAN, M. D., F. A. C. S., and GEORGE J. McCHESNEY, M. D., F. A. C. S., San Francisco.

An innovation in the rather trite treatment of vertebral tuberculosis is entitled to special consideration because of the fact that it is an innovation, for one thing, but chiefly because of the serious character of the diseased condition and the great need of an improvement in our methods of treatment. Up to the time when Hibbs and Albee practically simultaneously promulgated their operations, the treatment of tuberculosis of the bodies of the vertebrae—the most common form of bone tuberculosis in children—was still limited to the old-as-the-disease methods of braces and plaster of paris jackets and recumbency. All of these aimed to provide local rest—the so-called immobilization—and no more, and then the recession of the diseased process and the supervention of healing was expected to follow with improvement in the general health of the patient. Local rest for the skeleton of a living animal was known to be an anatomical and physiological impossibility; local rest by brace or splint or jacket was known to be a mechanical impossibility; but the means were the only ones we had, and the partial rest they gave was found in a fair percentage of instances to have a therapeutic value with which we had to be satisfied; in a certain proportion of the cases, however, the disease progressed in spite of all that we could do.

Now the orthopedic surgeon is not really fond of braces. They always represent to him a pitifully incompetent external skeletal aid, acknowledgedly cumbersome and irksome—taking hold of the denser and heavier bone through the less dense and softer skin and fat and muscles, to the detriment of the latter if adequate support is given to the former. The ideal brace would be invisible, impalpable, imponderable, indestructible, innocuous and absolutely efficient; the braces which we have are hideous, heavy, hurtful and incompetent, and prone always to wear out or to break.

Efforts to escape the external apparatus are evidence of the viewpoint of the surgeon, but the two solitary attempts, that of wiring the spines and laminae—done by two or three operators—and that of putting in light steel rods along the laminae—done only by one—had each the fatal defect of overlooking the fact that bone is a living tissue and will absorb under a pressure that produces a local acute anemia.

With the suggestions of Hibbs and of Albee has come the nearest approach to the ideal brace; each provides an internal splinting of the affected vertebrae, a bracing that is both invisible, impalpable and imponderable, and each method avoids the error just mentioned, for each recognizes that bone is a living tissue and indeed counts on that very fact for a successful outcome. They each have done more than this, for we credit each with having copied the natural healing process of bone tuberculosis in planning their procedures, and having obeyed surgical laws in their technic. In bone tuberculosis, as the pathology ceases and repair is inaugurated, new bone is built in to restore, so far as it may, the original bony frame (Nichols and Adami). In each of the plans mentioned, osteogenesis is especially invited to add strength and rigidity to the affected parts of the skeleton. In the normal repair of tuberculosis-affected joints, a more or less complete fusing of the component bone occurs. In each of the plans a fusing or synostosing of the affected vertebrae is especially brought about. Finally, in devising their technic for securing these results, they have both carefully avoided encroaching upon the affected regions, thus obeying the surgical rule of not invading a tuberculous region unless there is a reasonable expectation of being able to remove it all.

It is not often that two new plans of treating a well-known condition are offered to the surgeon at practically the same time; especially is it remarkable that each plan recognizes and meets the same and all the conditions of success, though each in its own separate way. From having a deficiency of therapeutic measures, we seemed suddenly to have a superabundance, and the difficulty was to decide the abstract value of each and the concrete value of the better.

The Hibbs method uses the spinous processes and the laminae of the vertebrae—all of that part which is posterior to the intervertebral articulations—for the purpose. The spinous processes, stripped of periosteum, are half cut, half broken at

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their bases, and then bent down so that the tip of the upper is in osseous contact with the infraction of the lower; the laminae have strips cut from their borders, but left attached by one end. The strips are then bent down so as to be in contact with the upper border of the lamina below. Over this multiple infraction the periosteum and soft tissues are closely sutured. This is done, not only to the affected bones, but included two sound bones above and two sound bones below those. As healing occurs the fusing of all these bony parts is expected to take place, binding the individual bones together. Finally, a bony plaque is expected to be formed, as wide as and as thick as the laminae plus the thickness of the spines, and this is expected to increase in thickness and strength as work is put upon it, and to carry the superincumbent body weight, to prevent increase of the kyphos and to cure by immobilization.

The Albee plan is in one way simpler, in that it makes a less formidable surgical attack on the vertebrae. The spinous processes are split from tip to base and the soft parts between them cut to the same extent. Into the cleft thus made an implant of bone, cut from the tibia, is put and fastened, and it, as in the Hibbs plan, extends two sound vertebrae above and below the affected region. Healing finds the affected vertebrae, and four others—two above and two below—bound by the union of this bony implant and the spinous processes; and again, the carrying of weight, the prevention of increase of deformity, and the cure of the disease is looked for.

Now in the posterior lever spinal brace of Fayette Taylor—the prototype of all mechanically competent spinal braces—the endeavor was to transfer the work from the vertebral bodies, which were diseased, to the articular and transverse processes by extending the spine, as a whole, at the point of disease, for the articular processes usually escaped the infection. As levers the brace had the segments of the spine above and below the kyphos.

Looked at in terms of the brace, the Hibbs method has little to commend it. The fusing of the part of the ring of the vertebral arch behind the articular processes gives practically no leverage power, for the power—the fused laminae and spines—is too near the fulcrum—the articular processes—unless the plaque of bone resulting from the method develops sufficiently to stand a severe cross strain, kyphos increase can occur, and with it perpetuation of the infection. (Fig. 1.) (Fig. 3.)

Looked at in terms of the brace, the Albee plan is the better, for it makes a body of bone, by fusion of the spines, on a plane definitely posterior to the articular processes, so that some leverage is possible. (Fig. 2.) (Fig. 3.)

These considerations are, to a certain extent, theoretic; but each of us had seen operations and cases after operations by the two originators, so that we had some definite clinical guides, apart from theory, to help us. We, therefore, selected the Hibbs method for those cases in which the disease affected the dorsal spine, for here the overlapping or imbrication of the spinous processes

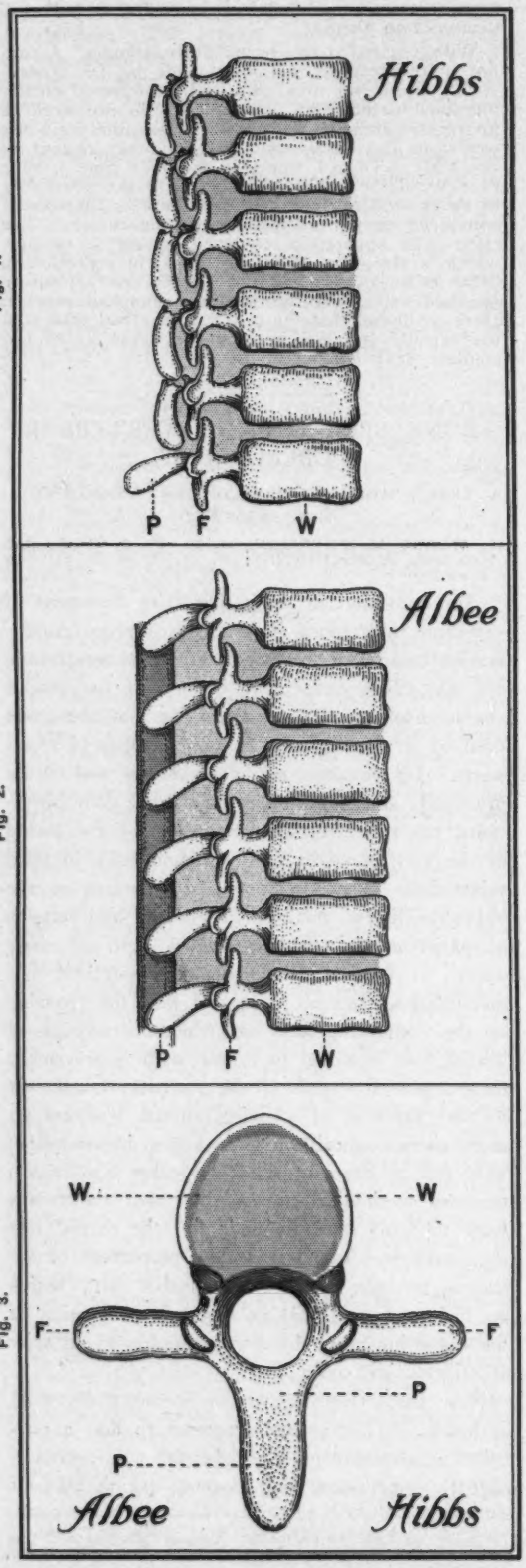

Fig. 1.

Fig. 2.

Fig. 3.

lent themselves most readily to that plan. The Albee technic we reserved for cervico-dorsal, dorso-lumbar, lumbar and lumbo-sacral lesions. With this plan we have done thirty operations on twenty-seven children, three children who had double lesions having a Hibbs done in the dorsal and an Albee in the lumbar region at the same time.

Of these all but one healed normally. That one was a child with a septic sinus in the operation field, and from it the wound became infected, the Albee graft necrosed and had to come out, but the ultimate result, so far as spinal reinforcement is concerned, is most satisfactory.

One died of tuberculous meningitis five weeks after a normal healing, and a second died eight months after the operation of sepsis, following an unwarrantable invasion of a psoas abscess before he was brought to us, but our operation healed normally, and the Albee implant was never extruded.

All the rest are living, but with otherwise varying results. Seven of the twenty-five are in good condition and up and about without artificial support. These apparently count definitely for the operation. Among them are included the three children upon whom the double operations were done. Nine others are up and about and in satisfactory condition, but are still in jackets, which we dare not remove. These count neither for nor against the operation. Five of them had had the Hibbs operation and four had had the Albee.

Two are up and about without jackets, but their condition is not satisfactory in that they do not gain in weight and strength. They are all Hibbs cases, and they certainly do not count for any operation.

Five have been put back in recumbency on stretchers and in jackets. Of these three are Albee and two are Hibbs cases, but we are not at all sure that they count against any operation.

In two old paraplegias upon whom we operated in the hope of having a recession of symptoms, no change has occurred. In one child an oncoming paraplegia cleared up, but in another a paraplegia developed after the operation.

In three instances tuberculous abscesses disappeared after the operation; in two cases abscesses remained unchanged, and one child had an abscess appear after a normal healing of the operation wound.

In six children an increase in the size or acuity of the kyphos has been noted. Of these four are Hibbs cases and two are Albee.

Taking the whole number again into consideration, seven out of twenty-five—twenty-eight per cent.—have *apparently* been hastened back to health and have a lesser likelihood of recurrence of the disease. If one remembers that we operated on every child in our care, with no effort to select cases, that the original condition is one of the most serious of surgical conditions, with both immediate and remote menaces, this is not a bad showing. It is a far better showing than many another now well recognized surgical procedure has had in its earlier days.

What do we think we have learned from this series, which has, by both of us, been most sedulously watched?

We are going to answer the question in a very sweeping way, at the risk of seeming zealous, but with, of course, the right to change our opinions later if need be.

The child who can be most helped is the child with the least serious lesion. That is a truism. Therefore, operate as soon as the diagnosis is made in the early case.

The child who has the most serious condition, bad deformity, abscess, paraplegia, malformation, has the most to gain and the least to lose by an operation. This again is a truism. Therefore, operate upon these.

All between these extremes have varying needs of help. Do not refuse it to any of them.

If our twenty-eight per cent. does not deceive us, fewer and fewer will advance to the middle and later stages, and the percentage of healings will increase as the earlier cases, not weighted by long illness and complications, are taken care of.

Which of the two methods do we at present think the better? We are both more impressed with the Albee technic, and have done some two operations, putting two tibial transplants, one on either side of the spinous processes, instead of one in a cleft in the spinous processes. These atypical Albee cases we are not including in the report because they have been too recently done. One thing more we think we shall later ask to demonstrate, and that is the cutting, by a chisel or osteotomy, from the subcutaneous surface of the tibia, of a graft which, as it is being cut, curls up like a big shaving, so that it can be fitted to the curve of any kyphos without bending or breaking. This will obviate one of the minor difficulties in the technic, but one which has seemed at times to have a major value, for when the transplant is straight and must lie in a curved bed it must be bent to fit and it sometimes breaks. These infractions should act like ordinary fractures, but our transverse radiograms do not show that they always do so. If the graft bends as it is being cut, the need of manual bending will be obviated, and so the infraction will be avoided. This will, by eliminating a possible weak part, add to the potential strength.

But, finally and always, we must remember that we are dealing with tuberculosis, and tuberculosis is—tuberculosis. No present-day method of treatment is a cure. Of this class no patient can be operated upon and sent away without careful after-treatment and with any expectation of assured healing. These operations are, we think, most valuable methods of treatment. This, and nothing more.

Illustrations

Fig. 1. Shows, diagrammatically, the Hibbs method of contacting the spinous processes. The relative positions of power, fulcrum and weight are shown.

Fig. 2. Shows, diagrammatically, the Albee method of implanting a tibial graft in the spinous processes. The relative positions of power, fulcrum and weight are shown.

Fig. 3. View of a diagrammatic vertebra, showing the relative positions of power, fulcrum and weight in the Albee and in the Hibbs methods.

INFANTILE AND JUVENILE TABES.*

By HANS BARKAN, M. D., San Francisco.

The adult type of tabes is, if not diagnosticated by the neurologist first, often discovered by the ophthalmologist, as the cases afflicted with optic atrophy come to him because of failing vision. As the optic atrophy, if it occurs at all, appears in the vast majority of cases as one of the very earliest signs, we frequently have the opportunity of being the first to suspect a tabes and of confirming the diagnosis by the finding of Argll-Robertson pupil, lost patellar and Achilles reflexes, and Romberg. The total per cent. of tabetics first diagnosed as such in an eye clinic is hard to state accurately, but probably amounts to about 20%. Of all tabetics from twenty to forty per cent. (this last Uhtoff's estimate) develop optic atrophy and as this is early and the other early signs already enumerated not appreciable to the patient, I think twenty per cent. a safe estimate as regards tabetics primarily diagnosed as such in an eye clinic. This number rises to a very much higher percentage if we consider the disease picture of tabes in infants and juveniles; for in these the percentage of optic atrophy is from ninety to ninety-five and the other tabetic symptoms, such as various crises, and above all the motor instability, absent, or at most only indicated. The children complain of failing vision only and are usually brought to the ophthalmologist. Of these cases thirty-four had been published up to the year 1903 and fifty-one up to 1908. Since that time twenty-two more cases have been described, of which the last six were published by me in the Wiener Klin. Woch., April 11, 1913, with the title "Zur Frage der Infantilen und Juvenilen Tabes." Since then I have had the opportunity of examining six further cases, members of one family—three male and three female children. The case histories of all the cases observed follow:

I. The parents are alive, well and deny lues. Patient is the only child, aged nine. No previous sickness, but is at present suffering with enuresis nocturnal. No physical signs of hereditary lues. She has noticed for some time that she sees nothing with her right eye. Examination shows: right pupil a trifle larger than the left. When the eyes are directed to the extreme right the pupillary difference is somewhat increased. The right pupil does not react directly to light. The consensual reaction is conserved. The left pupil reacts well. The right disc is quite white, with sharply outlined borders, vessels of normal caliber. The rest of the fundus normal. The left optic disc is also much paler than normal, sharply defined, and shows normal vessels. Neurological examination: no impairment of sensibility. Both patellar reflexes present, right somewhat sluggish. Both Achilles reflexes absent. Wassermann reaction positive, but negative in the parents. Vision: right, movement of the hand before the eye—visual field concentrically narrowed: of the left, 20/30, Jäger 1. In the course of the next nine months vision of the right eye decreased to perception of light in one meter and on the left eye to 20/200, Jäger 5 read with difficulty. The patellar reflexes absent. In the next six months the vision dropped to the perception of light in thirty centimeters right eye, and the counting of figures at 1½ meters on the left eye. Both discs shining white, vessels normal, the right pupil somewhat larger than the left, no reaction to light, the left pupil reacting fairly well: reaction to accommodation preserved. Did not return to the clinic after this last examination.

Case II. Girl, fifteen years of age. Adipose, of an infantile physical and mental type. No signs of hereditary syphilis. The patient is the second of seven children, of whom the first four are alive and well. The fifth died at eighteen months, cause of death unknown. The sixth and seventh children were premature in the eighth month, and died in twenty-four hours. Lues is denied by both parents. The patient herself was well up to the age of thirteen. Her first trouble at that time was difficulty in reading, occasional dizziness, and getting tired rather more rapidly than usual. For a year she noticed that the left eye was losing its sight, but otherwise felt quite normal. In the last three years she has gained a good deal of weight. The vision is—right eye 20/30, with 1½ Sph. with 3, Jäger 1. Left eye—fingers counted in 2½ meters. Left pupil reacts neither to light nor accommodation, right pupil reacts normally. The left fundus shows a chalky white disc, sharply defined vessels, normal caliber. Right fundus shows slight temporal paling of the disc, otherwise normal. The left visual field examined by the Bjerrum method, is markedly and concentrically narrowed for white and colors, and above and nasally shows a sector-shaped defect reaching nearly to the fixation point. Neurological examination: patellar and Achilles reflexes absent. Romberg indicated, no ataxia. Hypalgesia from the lower border of the third rib to the thirteenth. Hypalgesia of both calves, but not of the feet. Neurological examination of the mother: Patellar and Achilles reflexes absent, indication of Romberg, Argyll-Robertson pupil, fundus normal. No parasthesia. Wassermann positive in the patient, as well as in the mother.

Case III. Boy of sixteen. Right pupil larger than left, quadrilateral in shape. Light reaction absent. Left eye shows slight ciliary injection, normal cornea, pupillary border bound to anterior lens capsule by multiple adhesions. In spite of specific treatment, ciliary injection progressed, the picture finally developing into one of a typical iridocyclytis, with oedema of the iris, precipitates on Descemat's membrane, and clouding of the aqueous. Fundus both eyes normal. Visual field normal. Vision: right eye—20/20, left 20/70; both patellar reflexes weakened, left more than right. Achilles reflex absent, Romberg scarcely indicated. The father: absent patellar and Achilles reflexes, Argyll-Robertson pupil, Romberg indicated, positive Wassermann, one of the best amateur billiard players of Vienna. The mother died in 1912 with cerebral hemorrhage. Wassermann in the patient was positive.

The next three cases observed were on the neurological clinic of Prof. v. Wagner, where Dr. W. M. Schacherl was kind enough to afford me the opportunity of studying and reporting these cases with mine. The father of these three children acquired syphilis sixteen years ago. He is forty years old. Primary atrophy of both discs. Both pupils are large, do not react to light, show slight amount of anisocoria. Patellar and Achilles reflexes absent. Wassermann positive. Mother shows no symptoms of any organic nervous affection; Wassermann positive. Oldest child, boy of eleven, shows atrophic disc of the primary type, the right in a more advanced stage. The right pupil larger than the left, both round, reaction to light absent. Patellar reflex scarcely to be elicited, Achilles reflex increased. Wassermann positive. The second child, a girl of nine years, complains the last two years of loss of vision, shows slight paling of both discs. The right pupil is somewhat larger than the left, both react well to light. The right patellar reflex elicited with great difficulty, left is normal. Achilles reflex normal, all other

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reflexes normal. Wassermann positive. The youngest child, a boy of seven years, who feels perfectly well, shows slight paling of both discs, more of the left than the right, pupillary reaction very sluggish. All reflexes normal: Wassermann positive. All three are strikingly intelligent children of graceful physical build, of normal height and weight. Besides the tabetic symptoms mentioned, the only other abnormalities are enlarged, hard, easily palpable cervical, axillary and inguinal lymph nodes. These cases have been reported before, as mentioned: to them I here add the case histories of the following six children, all members of one family. The two oldest were sisters and twins aged nineteen. These came to the clinic because of failing eyesight. The others were one girl aged seventeen, one boy aged fifteen, one boy aged fourteen, one boy aged eleven. The two oldest girls showed primary atrophy of both discs with normal vessels and otherwise normal fundus. In both cases patellar and Achilles reflexes were absent. No parasthesias. No complaint except failing eyesight. The other four children showed Argyll-Robertson. Of these, the two oldest a slight paling of both discs as well as absent Achilles reflexes. The two youngest were normal in every respect except for Argyll-Robertson. The mother had recently died in an insane asylum. Cause of her confinement there was not to be ascertained. The father is alive and well, shows Argyll-Robertson, patellar and Achilles reflexes absent, Romberg indicated. Wassermann of the father as well as of all six children positive.

Summing up these cases:

1. Enuresis nocturna, genuine atrophy of right disc, later also of the left. Argyll-Robertson, patellar and Achilles reflexes absent, no Romberg, no parasthesias, no ataxia, Wassermann positive.

2 Case of genuine atrophy, one-sided. Argyll-Robertson one-sided, patellar reflex absent, Romberg indicated, no ataxia, regionary parasthesias, suggestion of infantile type, Wassermann positive, as well as in the mother, who also showed the cardinal signs of beginning tabes.

3. Case of Argyll-Robertson, weakened patellar and Achilles reflexes. Romberg indicated, no ataxia, no optic atrophy (so far an exception to the rule), no paresthesias, Wassermann positive, as also in the father.

4 and 5. Genuine optic atrophy, unequal pupils, weakened patellar reflex.

6. Slight paling of both discs. In all children (4-5-6) Wassermann positive, as well as in father and mother (4-5-6 members of one family).

7 and 8. Optic atrophy, Argyll-Robertson, loss of patellar and Achilles reflexes. Wassermann positive.

9, 10, 11, 12. Argyll-Robertson. Wassermann positive (7-8-9-10-11-12 members of one family). Wassermann positive in father, who also showed cardinal signs of tabes. Mother died in an insane asylum.

To be sharply differentiated from these cases are those of juvenile paralysis and tabo-paralysis. Mott, in his monograph on "Congenital Syphilis and Feeble-Mindedness" points out the main characteristics of these types: that these cases are not rare is evidenced by the fact that 2 per cent. of all cases of general paralysis dying at Claybury Asylum during the last twelve years have been of the juvenile form and due to congenital syphilis. Tabes, on the other hand, he states "to be very rare." In the frequent cases of general paralysis and tabo-paralysis, the children, at about the age of puberty, develop syphilis hereditaria tarda, manifested often by interstitial keratitis, nerve-deafness, skin and visceral lesions. They are usually markedly infantile, both in bodily and mental development, this state being frequently associated with various grades of idiocy and imbecility. While congenital syphilitic children presenting the well marked stigmata, may later develop juvenile general paralysis, tabo-paralysis, tabes, primary optic atrophy, epilepsy, chorea, hysteria and meningitis, it is much more common to find apparently healthy children born of syphilitic parents, developing at or about puberty, the various nervous affections mentioned above. These are all Mott's observations—the cases of pure tabes I have seen are well and healthy children, in the great majority of instances, but for their optic atrophy and their loss of certain reflexes. Mentally, they were, with one exception, rather above par, than merely average. They form as stated, a class by themselves, and the number observed shrinks to very small proportions if among the cases reported those showing any indication of the mixed type—the taboparalytic—be excluded. These latter die within three or four years after admission to an asylum, and, in ways only slightly modified from the adult type—delusions of grandeur and those of a sexual character being less marked—end their days in a state of mental and physical dissolution. The life of the pure tabetic type, however, goes on in most ways as before, but for blindness, and while I have not been able to ascertain how many of the cases reported are alive, the fact that only one autopsy is recorded on a pure tabes (that of Malling) shows that these children are resistant. Reports sent to me from the Vienna clinic state that the children observed there are at present as well as two years ago, but for their decreasing vision.

The Wassermann reaction has been reported in a few of the published cases only, the greater majority of them being observed before the year 1908. Since then it has been reported in thirteen cases, being positive in eleven. To these I add the twelve cases reported in this paper, all of which were positive. The high percentage of Wassermann in the blood stands in rather marked contrast to the frequency of the positive Wassermann reaction in adult tabes, where in the blood it is not over 70 per cent. in the advanced cases, in the incipient not over 60 per cent. The optic atrophy, found in 95 per cent. of juvenile tabes, is in striking contrast to the percentage, even the highest (Uhtoff, 40 per cent.) found in adults. Why this atrophy is so constant in the juvenile form we do not know. We do know that optic atrophy is found very much more often in individuals of a broad, short, robust, rather stocky type, as regards the adults. The children, however, whom I have seen, were if anything rather graceful in physique, and of a slender type of bodily development. The patellar and Achilles reflexes are absent in 80 per cent. of juvenile tabes, which corresponds with the figure as regards tabes of the adult. Romberg and ataxia are noted in the tabes of the adult in about 80 per cent. of the cases, just in inverse proportion to juvenile cases, where ataxia is missing in at least 80 per cent. and Romberg is scarcely ever indicated. We know that the form of tabes in adults beginning with optic atrophy usually does not advance to the atactic state, and when it does, we find this state a mild

one. In analogy to this we could expect and we do find in the juvenile tabetic, where the high percentage of optic atrophy is the striking lesion, ataxia in a very small number of the cases. This opposition of optic atrophy and ataxia is perhaps to be sought in the fact, which Oppenheim also emphasizes, that the motor exercise which beginning blindness forces upon these patients can restrain motor instability, just as we know that Fraenkel's method of training ataxia has in many cases led to striking improvement. The absence, or difficulty in eliciting, the patellar and Achilles reflexes we find in nearly all the cases, as well as Argyll-Robertson pupils, anisocoria and inequality of pupils. In a number of the cases reported, and in one of mine, an early and rather persistent enuresis nocturna was complained of.

The prognosis as regards sight is an absolutely unfavorable one. Mercury does not seem to influence the course of the disease, and in some cases has been said to hasten it. We must, I think, see to it, even in the early stages of loss of vision, if Wassermann be positive, and any of the other mentioned signs of tabes are present, these children be taught the ordinary occupations for the blind, such as basket-weaving, broom-making, etc., which they learn with a great deal more facility while some remnant of their eyesight is still left to them. The optic nerve atrophy causes within a year or two, complete blindness, in practically all cases.

The frequent positive Wassermann reaction in one or both of the parents of these children, and the almost uniform positive Wassermann reaction in the children, is enough to stamp this disease as inherited tabes. In the parents we so often find signs of tabes and general paresis (according to Marburg and Mott, in from 18% to 20%) that we can scarcely avoid the conclusion that children born of parents who later develop either of these two diseases are more likely to show a syphilitic inheritance in the form of a juvenile or infantile tabes (or general paralysis or tabo-paralysis) than are those in which the acquired syphilis of the parents does not lead to the development of tabes or general paresis.

A few short and scattered statements on this matter are found in Oppenheim's latest edition, while Church and Peterson's Neurology contains a number of inaccurate statements regarding this condition; the malady does not usually begin with urinary troubles, gastric and intestinal crises are not frequently noted, the stigmata of hereditary syphilis, the presence of gross syphilitic lesions of the brain and cord are conspicuous by their absence—this last in perfect analogy to the tabes of adults, where, as is well known, a tabetic with gross syphilitic lesions is a rarity. The statement that the malady begins *least* frequently with amblyopia is in absolute opposition to the real condition.

This short account of infantile and juvenile tabes I have thought worth while to read in a section on Ophthalmology for the reason, first, that very few indeed of any text-books on the eye mention the subject at all, and these only in a very cursory fashion; second, the observing of twelve cases of this type in two years, even considering the huge number of cases of all descriptions seen during that time on a large European clinic, may possibly indicate that they are not as rare as supposed; third, they are primarily eye cases in the sense that the ophthalmologist has nearly always the opportunity of seeing the child first, and that the most constant lesion, and as a rule the only one causing real impairment of ability to lead a normal useful life, is one to be diagnosed by the ophthalmologist, optic atrophy.

In concluding I wish to acknowledge my indebtedness to Hofrath Prof. E. Fuchs for permission to report the cases, and to Prof. Marburg for his direction in the neurological examination of them.

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Discussion.

Dr. A. W. Hoisholt, medical superintendent Napa State Hospital, Napa, said: I can only say a few words concerning the subject of Dr. Barkan's paper, as I have not in the course of an experience of twenty-four years seen a single case of juvenile paresis in the State Hospitals of Stockton and Napa. As European reports, according to Barkan, show it to occur in two per cent. of cases of paresis, the experience here may possibly be because such cases have gone to the Home for Feebleminded at Glen Ellen. I have no knowledge as to this possibility, but can say that whenever inmates of Glen Ellen have shown symptoms of a marked psychotic nature they have usually been sent to Stockton and Napa, and we have now

and then received patients from there at the age of puberty, but none of them have been juvenile tabes.

At one time I collected sixty-nine cases of general paresis including some cases of tabo-paresis. The youngest of these was twenty-six years old. Since then I have seen one case that was twenty-three years of age. Optic atrophy is, as Dr. Barkan says, rather infrequently observed in the adult tabetic as compared with the ninety-five per cent. in juvenile tabes, and especially so in general paresis. I have seen a number of cases of optic atrophy in paresis, but they have usually been of the tabo-paretic type. A noted baseball player came lately into my care, who did not show mental symptoms until a year or more after the optic atrophy was complete.

Dr. Kaspar Pischel, San Francisco, said: The suggestion of the essayist to send these children to a training school for the blind reminds me of the late Dr. Emile Javal, the famous inventor of the ophthalmometer. When over sixty years old he lost his sight through glaucoma. He then wrote a book, "Entre Aveugles," which every occulist should read. Javal advises in cases in which the sight is slowly, but surely diminishing, as in atrophy of the optic nerve, teaching these unfortunates the occupations and reading of books for the blind, early, because the little sight they still have will help them greatly in acquiring this accomplishment.

Also discussed by Dr. Hulen, of San Francisco, Dr. Church, of Venice, and Dr. Jordon, of San Jose.

Dr. Barkan, closing discussion: As regards therapie speaker states that there was no treatment of these cases: Salvarsan, as suggested by Dr. Hulen might be worth trying. As regards the application of Mendel's law, the family history cannot be traced back far enough, and in the cases reported before 1908 but little mention is made of the state of health of the parents: the possibility of a specificity of the spirocheta as regards its tendency to produce either tabes or gross tertiary lesions has been recently raised, especially by Erb: the possibility of this seems supported by Spielmeyer's experiments, who succeeded in giving to alternate series of dogs tabes in one series, initial syphilis with its lesions in the other series; for a more detailed account of this possibility the speaker would refer to a paper on Tabes and Basedow to be shortly published in the Boston Medical and Surgical Journal.

FEEDING IN THE FIRST MONTH OF LIFE.*

By ADELAIDE BROWN, M. D., San Francisco.

The importance of the human milk supply has received new emphasis from the work done in the past two summers with human milk as an adjunct to difficult infant feeding problems, on the Boston Floating Hospital. A daily milk route has been established for collecting human milk by a trained nurse, and it is used in the most critical cases for part of the feedings with far better result than any modifications of cows' milk have given. This study emphasizes the importance of preserving even a partial supply of human milk for the infant. Supplementary feeding is an easy matter in comparison with complete artificial feeding.

Modification of human milk is required in certain cases, especially during the first weeks of life in feeble or premature infants. The weaker suction power of such an infant tends to make the supply less and the quality heavier. The same is true of all artificial appliances for emptying the breast. However, a compromise is necessary where a milk too rich in proteids or fats exists; it can be fed diluted after being pumped from the breast. Such milk should be kept on ice, in sterile dishes, and diluted with boiled water to which 5 per cent. of milk sugar has been added, so that the carbohydrates of the food shall not be diminished.

Such modification of human milk I have found necessary and successful in two cases of general eczema occurring at two weeks of age, where the fat of the mother's milk stood at 6 per cent. (Babcock). In one case three feedings a day were given of condensed milk (low in fat and proteid) and one-half ounce of water fed the child before each breast nursing. An ability to digest mother's milk developed after three months, while what looked like a difficult eczema situation subsided in three weeks.

We have done some experimenting in institution and private work on intervals between feedings in the first month of life, and having wandered to the two and one-half, three and even four-hour intervals, have returned to 10 feedings in 24 hours for the first six weeks, reach three-hour feedings by three months, and no feeding from 6 p. m. to 6 a. m. by six months if possible.

One argument for the two-hour feeding is the mechanical stimulus to lactation of the act of suckling. In the first month of life a thorough establishment of this function is necessary, and in many cases failure is due to a disregard of small details. A pessimistic attitude on the part of doctor or nurse often discourages the mother.

Starvation temperature has aroused some skepticism and has been laid at the door of septic infection. It is a condition often overlooked in private work, where routine observation of temperature in the infant is less frequent. The cases that I have seen, and they are fairly frequent, occur on the second and third days, and the temperature disappears on giving the infant 5 per cent. sugar solution one-half to one ounce every two hours. Such babies have always lost in weight more than the average for the time, have dark dry skins, brown stools, and are hard to rouse to nurse. The symptoms disappear rapidly, with the fluids and the establishment of lactation.

Lavage in connection with regurgitation and vomiting in the first weeks of life, I have only used once. Abundance of water with each feeding, and a longer interval between feedings, has corrected the difficulty in nursing infants.

Gavage has been of great value in the feeding of several feeble and premature infants. It is quickly learned by a skilful nurse and is less likely to traumatize the mucous membrane than

* Read before San Francisco County Medical Society.

O'R.	I.	Milk V-10 1032 Fat 2.6	7.6 Wt. day V-4 fat glob. many no increase fat few fatty acids	Wt. day 7.14 V-10 some some increase few		
B.	II. (34) Ipara Forceps	Milk V-10 1032 Fat 3.5	V-4 8 lbs. no fat glob. no fat glob. + acetic acid many fatty acid crystals	V-8 no occas. glob. few	8.12½ V-10 no many some	
J.	III. 38 IIpara	Milk 1030 Fat 3.3	V-8 6.6 no fat drop many some fatty acid crystals	6 no many many	6.14 3 wks.	
C.	IV.	Wt. 8.6 day V-18 No Occasional No fatty acids	V-11 wt. day few many fat droplets many	V-27 no some many	wt. day 8.7	
S.	V.	V-27 many 7.10 slight increase many	7.4 few + many many		8 lbs.	
P.	VI.	V-4 occasional slight increase very few fatty acids	V-10 no many many	V-15 no many few	V-16 no many many	
Ca.	VII.	V-15 no some fat droplets many fatty acids	V-16 occasional many some	V-21 occasional no increase many	V-23 occasional many many	
Go.	VIII.	V-15 occasional many fat globules many fatty acids	V-16 many slight incr. many	V-18 no many many	V-21 no many few	V-23 few many many
Ja.	IX.	V-27 occasional many fat droplets many fatty acids				

feeding by a pipette or spoon, and the child is less likely to be chilled in the process.

During my present service at the Alexander Maternity, with the co-operation of the laboratory and the interne on the service, a study of the fat-digesting and fat-assimilating power of nine breast-fed, new-born infants has been made—twenty-five examinations of stools, and three of mother's milk, where the Babcock test for fat content was done. The examinations were made of three fragments of the infant stool: one alone, one stained with Sudan III, one stained with Sudan III and a drop of glacial acetic added and boiled. In the first specimen we get a general idea of the stool; in the second, the fat globules and fatty acids show up clearly, and on addition of the acetic acid and recrystallization on cooling, fatty acids and fat globules are liberated from the soaps formed in digestion.

The conclusions from these tests would show that the new-born infant acquires rapidly the power to split up the fats into soaps and fatty acids, and the amount of the latter and the small amount of increase of free fat show that the digestion of fat is a stronger power in the early weeks of life than its assimilation.

The gain in weight of these infants in the three weeks was one pound average. They were all normal, healthy infants, with no complication save forceps delivery for three.

The non-assimilation of fats is therefore not a pathologic but a normal condition, and the supply of more than can be assimilated is nature's course, if one is justified in a conclusion from so small a group of cases.

CENTRALIZATION OF PUBLIC HEALTH ADMINISTRATION.

Prepared by JOHN NIVISON FORCE, M. D., Assistant Professor of Epidemiology, University of California, in conjunction with a Committee of the City Attorneys' Association of Northern California.

INTRODUCTION.

By B. D. MARX GREENE, Berkeley.

For a number of years, as City Attorney for several small towns in Contra Costa County, I have had unpleasant experiences with the general public health regulations which usually pertain to small communities. Our water has been polluted and unfit for human consumption, and it is doubtful whether any of the milk sold in the towns measures up to the required standards; there is no inspection of meat, and, in one town at least, disease-breeding nuisances abound and cannot be abated. This has all been brought about owing to the lack of proper health regulation enforced by full-time officers.

Again, as City Attorney of Berkeley several years ago, I helped in the preparation of a model milk ordinance under which competent inspectors were appointed. Other cities at or about the same time also adopted similar ordinances and their inspectors covered the same ground outside of the cities in the inspection of dairies which our inspectors covered. There was, therefore, grave duplication of time, salary and expense.

These two illustrations serve to show the chaotic state of our public health administration since

there is in some parts of the state no regulation at all and in other parts of the state too much regulation through duplication.

With a view to remedying the abuses of duplication in our larger cities, a committee of the City Attorneys' Association of Northern California, was appointed to consider the question of uniform legislation by means of ordinances or inspection districts. After many conferences, it was found that the only solution was an entire change in our present state health administration by the centralization of all powers of health control in one body with full-time inspectors and health officials acting directly under this central authority. The annexed report of Dr. Force, who worked in an advisory capacity in conjunction with our committee, expresses our views.

This report I presented to the Health Officers of the State of California assembled in convention at the same time as the League of California Municipalities, at Del Monte, October 12th to 17th, and the general principles enunciated therein were by that association unanimously endorsed with a recommendation for endorsement by the League of California Municipalities. Thereafter, I read the paper to the League in convention assembled and a resolution was unanimously adopted, approving the general principles set out in said paper, and referring the same to the Legislative Committee of the League for presentation to the Legislature of the State of California, with a view to action at the coming session.

B. D. MARX GREENE,
City Attorney of Antioch and Pittsburg.

An efficient public health administration is beyond the financial reach of the small rural or suburban community. Berkeley, for example, conducts a fairly efficient control of its milk supply, yet cannot afford to inspect at the time of slaughter, all cattle intended for the meat supply of its inhabitants. On the other hand, Oakland conducts a meat inspection in Emeryville but has no authority to destroy meat condemned in the course of this inspection. Some of the large dairies supplying milk to the metropolitan district around San Francisco Bay are inspected at least monthly by the Medical Milk Commissions of San Francisco and Alameda Counties. In addition they are visited by the regular milk inspectors of the Bay Cities, to say nothing of the occasional visits of the inspector for the State Dairy Bureau. In contrast to this prodigality of inspection, the small town with no organized milk inspection must depend on three agencies for even a partial survey of its milk conditions. If informed of contagious disease among the cattle the State Veterinarian's office may conduct an investigation. The State Dairy Bureau is attempting to cover the entire state with a very inadequate force of inspectors principally concerned in keeping up certain standards of milk purity and not concerned with either human or animal diseases in relation to milk products. Finally, the local health officer would probably inspect a dairy for a possible typhoid or diphtheria carrier if these diseases should chance to occur along the milk route supplied from that dairy.

The obvious remedy for these conditions is centralized administrative control similar to that provided by law for water districts. Mere similarity of ordinances and friendly reciprocity between municipalities will not secure the desired result.

An interesting experiment in co-operative public health administration has just been published by E. B. Phelps, Professor of Chemistry in the United States Public Health Service.[1] Professor Phelps entered into a contract to furnish a complete public health administration to a group of towns in the neighborhood of Boston, comprising a combined population of 32,650 scattered over an area of 100 square miles. He also contracted to furnish a complete milk inspection service to an additional population of 30,000. The organization consisted of the health officer, a bacteriologist, a field assistant who collected samples for the bacteriologist, a sanitary inspector and two clerks. The total cost of the above service for one year including salaries, laboratory equipment, office furniture and printing, as well as the cost and upkeep of a small automobile and a motorcycle amounted to $7,603.51. From an analysis of costs Professor Phelps has determined that the ideal administrative group would be a population of 60,000 which he claims could be served at an expense of twenty-one cents per capita. This would include the above mentioned employees besides the services of two women health visitors and such extra assistants as might be necessary.

The experiment is interesting as a study of efficiency, but the idea of delegating a governmental function to a private organization is distinctly anti-social and cannot be commended. The lesson to be drawn from this experiment is that high grade public health administration is economically possible in a sanitary district which employs a well trained force of workers.

The following plan is suggested for bringing the entire State of California under a centralized form of public health administration without affecting the rights of political subdivisions:

The State Board of Health: The state board should consist of the commissioner of health, a sanitary engineer, a licensed veterinarian and four other persons three of whom should be licensed physicians. The members of the board should be appointed by the governor for a term of four years with due provision to avoid an entire change of the membership at one time.

The Commissioner of Health should be a civil executive officer appointed to such office by the governor. He should give evidence of experience in public health administration. He should serve as president of the state board and as its executive officer. He should devote his entire time to the

1 Phelps, E. B. Co-operative Public Health Administration. Public Health Reports, vol. 29, No. 39, p. 2477, Sept. 25, 1914.

duties of his office and be expressly forbidden to engage in any other occupation or business.

Powers and Duties of the State Board of Health:

1. The board should have general power of inspection with power to appoint inspectors, directors of bureaus and other employees subject to state civil service regulations.

2. The board should have power to make rules and regulations for the execution of the duties prescribed by law, including regulations for the guidance of local health officers.

3. The collection and publication of vital statistics and other matters of information concerning the public health should be a duty of the state board.

4. The board should maintain a system of laboratories for chemical and bacteriological examinations including the examination of milk.

5. It should be made a duty of the board to exercise control of the sanitation of all places where milk and other food products are produced and sold. This would add to the board the functions of the existing State Dairy Bureau which would be wonderfully strengthened by the change.

6. The board should exercise sanitary control over all public buildings which are the property of the state; over all factories, camps and tenements.

7. It should be the duty of the board to investigate epidemics of contagious diseases among animals. This would add to the board the functions of the State Veterinarian and assist in the solution of the problems of rabies, squirrel plague and bovine tuberculosis with which the state is confronted.

8. The board should conduct investigations of the infectious and occupational diseases of man and take necessary measures for their prevention and control.

9. The board should have power to investigate water pollution and sewage disposal throughout the state and take necessary measures to prevent injury to the public health by water pollution or the improper disposal of sewage.

It is obvious that many elements of the above powers and duties can only be administered by the board through a sufficient number of employees. It is therefore important to secure for the board the services of full-time local health officers. The present custom of appointing a local physician at a nominal salary, without any definite understanding as to his qualifications or the amount of time to be given to his duties, is unbusinesslike, to say the least. Furthermore, the health officer with a private practice is open to the jealousy of other physicians in the community.

The County Health Officer: The county health officer should be appointed by the supervisors from a list of eligibles certified by the State Civil Service Commission. The requirements for health officer should be indicated by the state board of health to the civil service commission. County health officers should be deemed state employees and should be compensated in part by the state as is now the custom for judges. The compensation of each county health officer shall be fixed by law depending on the population served. The portion of the compensation not paid by the state shall be apportioned to the one or more counties concerned, on a basis of population. If one health officer is apportioned to several counties, the supervisors of the several counties concerned should meet, for the purpose of appointing a health officer, in joint session. If the supervisors are unable to agree, the state board of health shall make the appointment, or any county is authorized to request the state board to make a suggestion as to the person to be appointed. County health officers shall be full-time employees and shall not be removed from office except for cause. Provision should be made for increased compensation with increase in time of service. Promotion should be consequent on examination.

Deputy County Health Officers. The requirements for deputy county health officers are the same as those of county health officers. While it is possible that a deputy may be assigned to the service of a sanitary district within a large county, or be in full charge of a small county or city, it is probable that deputy county health officers would be assigned to some special duty for a certain area. Thus a deputy county health officer would serve as director of the branch laboratory maintained by the state board of health in a county. Another deputy would be concerned in dairy inspection for the entire county or perhaps be conducting a sanitary inspection of the county schools. While the civil service commission should maintain a separate roster for deputy county health officers, it should be possible for any deputy who has served a sufficient time as such to be admitted to the examination for health officer.

City Health Officer: Any city may surrender its sanitary powers to the county and will then be provided with a deputy county health officer who shall serve as city health officer if the size of the city warrants his full time employment. Otherwise he may be given the city and a portion of the surrounding country in order to make up a population sufficient to form a practical sanitary district. It is obvious that it would be to the best interests of the city to take advantage of the combined state and county aid in the administration of its public health affairs.

Subordinates: Health visitors, assistants, helpers and clerks shall be furnished in such numbers as needed for the proper administration of the sanitary districts. They shall be appointed by the supervisors on recommendation of the county health officer. They shall be compensated entirely by the county.

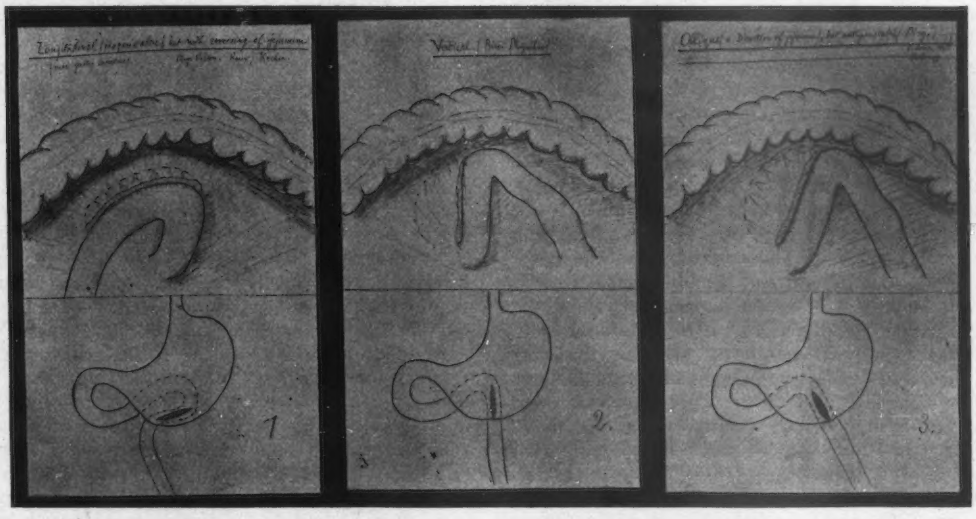
Summary: The only efficient system of public health administration consists of a strongly centralized health authority operating at the head of a number of sanitary districts in charge of full-time trained employees appointed through civil service regulations.

POINTS OF INTEREST IN THE TECHNIC OF GASTRO-ENTEROSTOMY.*

By PAUL S. CAMPICHE, M. D., F. A. C. S.,
M. R. C. S(tngl), San Francisco.

The present paper is the outcome of a discussion that took place at the April 7th meeting of the San Francisco County Medical Society. To our astonishment, we heard at that time some eminent physicians take a most pessimistic view of the results of gastric surgery. A distinguished specialist went so far as to say that, owing to the very high mortality, which he placed at 33%+, he now advises his patients rather to live with their ulcer troubles than to run the risk of an operation. This is a very serious situation indeed, and we thought it would be appropriate to review the latest advances in the technic and, if possible, have here among the surgeons a complete discussion of the subject of gastro-enterostomy.

We will begin this paper with a few remarks on the action and the complications of gastro-enterostomy as they are understood in the light of recent experience, and we will close with a rapid description of the most approved technic of the operation.



1—Longitudinal (isoperistaltic), but with reversing of j ejunum (near greater curvature). Mayo, Robson, Roux, Kocher.
2—Vertical. (Bier, Moynihan.)
3—Oblique (direction of jejunum), but antiperistaltic (Mayo, Ochsner, Hochenegg, etc.)

The effect of gastro-enterostomy on the stomach has been studied by several observers with the aid of the skiagraph. While some of them (Pers,[1] Bier [2]) find that the stomach empties itself quicker through the new stoma, whether the pylorus is patent or not, others (Blad,[3] Schüller [4]) maintain that the emptying of the stomach is not accelerated and that the bismuth always leaves the stomach both through the stoma and through the pylorus; but all find that a reflux of bile takes place for a long time, and all agree that hyperacidity and spasm are much diminished after the operation. Bourne [5] finds the best results in cases with an original acidity of 0.2 or 0.3%, while achylia gastrica or anacidity would be a contra-indication for operation.

The complications of gastro-enterostomy which ought to retain our attention are peritonitis, the vicious circle, and peptic ulcer of the jejunum.

General acute peritonitis is almost unknown after this operation, while chronic adhesive peritonitis seems to be present in many instances. The existence of this condition has been ascertained by surgeons who have had to re-operate some of their patients a few years after the first intervention. The process is not caused by infection but is simply the response of the peritoneum to the mechanical irritation set up by the clamps, sponges, sutures, etc. This condition has often resulted in a constriction of the stoma with a return of the old symptoms, and the lesson to be drawn from this experience is, first, to handle the stomach and jejunum with the utmost care and gentleness; second, in view of the fact that some degree of contraction is unavoidable, always to make the anastomosis as wide as possible.

Vicious circle: This most dreaded complication of gastro-jejunostomy is always due to faulty technic. In this condition the jejunum (especially the efferent limb) becomes kinked at the site of anastomosis; the bile accumulates in the much distended afferent limb and in the stomach and is vomited in large quantities. This complication arises especially in cases where the pylorus is still patent.[6] Other incriminating causes of this condition are torsion of the jejunum on its longitudinal axis, or its obstruction by a fold of redundant mucosa. All cases are not fatal: Kocher,[7] and [8] out of 92 gastro-jejunostomies reports six instances of vicious circle; all cured. Mauclaire [9] had two bad cases which he saved by keeping them a few days in knee-chest position (analogous to the treatment of acute post-operative dilatation of the stomach). The original von Hacker posterior gastro-

* Read before the San Francisco County Medical Society, May 19, 1914.

jejunostomy, with a loop of jejunum nine to ten inches long, created the most favorable conditions for the development of the vicious circle. Petersen was the first to operate with a short loop, with the button, but it was Ch. Mayo [10] and [11] in 1903 who firmly established the posterior no-loop operation done with sutures as we still perform it today, and this was the greatest advance in the technic of posterior gastro-jejunostomy. Speaking of Mayo's "no-loop modification" we would like to make a personal remark and say that it should not be called the no-loop but the short-loop operation. Mayo himself allows a loop one and one-half to three inches in length as quite safe; and this is very important because some operators, in fear of the vicious circle, sometimes attempt to do the operation without any loop at all, which means that they operate within the abdomen, deeply behind the stomach, in a hole, so to speak, and with the result of bad sutures, leakage, etc. It must not be forgotten that the operation of gastro-jejunostomy (to be clean and safe) must be performed *outside the abdomen,* or at least so that the continuous sutures can be applied quite easily with a straight needle, and the shortest loop of jejunum which will allow this will always be from one and one-half to three inches long.

Anterior gastro-jejunostomy must always be done with a very long loop of 16 to 20 inches, so as to avoid constriction of the transverse colon. The only way to ward off a vicious circle in this case is to make the line of suture at each end one inch longer than the stoma (as first suggested by Hartmann [12]) and to make a long anastomosis.

Other methods devised to drain the bile below the stoma, such as Braun's anastomosis between the two limbs of jejunum, and Roux's Y-shaped gastro-enterostomy, have become unnecessary since we have learned to do simple gastro-jejunostomy in a way to avoid vicious circle. Besides this, they are dangerous as favoring peptic ulcers, and I want to say here that my former chief, Professor Roux, has now abandoned the Y-shaped operation which he was the first to perform in 1898 and which still bears his name.[13]

Peptic Ulcer: This remote and rare, but none the less disagreeable sequel of gastro-jejunostomy, has been known for about 15 years. It has occurred after both posterior and anterior gastro-jejunostomy, but more often after the latter; its frequency is from 2% to 3%; it appears more frequently in men and generally in patients that have not kept to a proper diet after the operation. Kocher,* out of 92 gastro-jejunostomies, reports three cases of peptic ulcer, all cured by resection of the ulcer and new anastomosis. The symptoms of this condition differ widely: some cases are quite latent; or perforation and acute peritonitis develop suddenly; symptoms of a recurrent ulcer (hunger-pain, occult blood, etc.,) are present in some instances, with tenderness over the site of anastomosis or with formation of a hard swelling against the abdominal wall caused by a local peritonitis; the ulcer may perforate into the colon and cause a gastro-colic fistula. (Those interested in this condition are referred to the articles of Gosset [14] and W. Mayo [15] on the subject.) The ulcer may be at the line of anastomosis, especially in case of faulty technic, or in the jejunum proper when acid is abnormally present in the intestine and is not neutralized by bile. Animal experiments have shown that with good suturing of the mucosa, the anastomosis heals by first intention in seven to eight days. Any factor interfering with good healing may lead to an ulceration of the line of anastomosis. Such are an impacted Murphy's button, retention of unabsorbable material (silk), infected hematoma, sepsis, and too small anastomosis resulting in imperfect drainage of the stomach, etc. Then all factors tending to increase the acidity in the jejunum and lessen the protective influence of bile, such as Braun's anastomosis, Roux's Y-operation, faulty diet, etc. In order to prevent this complication we must make exclusively the operation of simple gastro-jejunostomy with a large opening, suture the mucosa carefully (whether with catgut instead of silk we shall know in a year or two), avoid the use of Murphy's button, keep our patients on a diet for a very long time and give them plenty of bicarbonate of soda after the operation if necessary.

Murphy's Button: Murphy's button [16] is still used by a few men; among them we find Carle Kümmell, Steinthal, de Beule,[17] Gelpke [18] and the Heidelberg Clinic [19]; but the majority of surgeons prefer a good suture. While it allows a very rapid operation, the button has been responsible for many accidents, such as hemorrhage, perforation, obstruction, escape of the button into the stomach, and above all, late constriction of the anastomosis with recurrence of the symptoms. Some experiments tend to show that in cases operated with Murphy's button, the mucous coats of the stomach and jejunum often fail to unite, and the line of anastomosis, according to Bier,[16] is often made up solely of scar tissue, which would be much more subject to contraction. But the main objection to the use of the button is that the anastomosis cannot be made as large as we now think it always should be in gastro-jejunostomy. At the last International Surgical Congress, which took place in New York in April, 1914, Murphy [20] stated that he has discarded the round button and is now using an oblong button.

To sum up: we would say that Murphy's button rendered great service at a time when suturing was slow and defective, and weak patients had to be kept under deep anesthesia for a long time; but it has become unnecessary since the introduction of clamps which make the operation safe and easy to do under such a slight anesthesia that even the weakest patients can stand it. We would use a button only when at the start an emergency (collapse or syncope) should arise that would make the rapid termination of the operation imperative, or when doing gastro-jejunostomy in a case of perforated gastric or duodenal ulcer.

Technic: Most surgeons now prefer posterior gastro-enterostomy as giving better results (von Hacker, Petersen, Czerny, the Mayos,* Bourne,* Burk,[21] Moynihan,[22] Kocher,* Roux,* Scudder [23]), but the technic of the operation varies somewhat

in the details. In his Clinics, J. B. Murphy [24] tells us that while in Europe last year he saw many surgeons perform gastro-enterostomy and that no two men did it in the same way, but that they all had good results.

Everybody now does the short-loop operation. As to the direction of the line of anastomosis, we find the surgeons divided in three groups. Some, including Mayo-Robson,[25] Roux,* Kocher,* make it longitudinal or isoperistaltic; others vertical (Moynihan,[22] Bier*); and others oblique from right to left above down, which is antiperistaltic (the Mayos,* Ochsner,[26] Hochenegg,[27] etc.). But as each of these three groups of surgeons can surely produce statistics of 1000 cases with excellent results, we are forced to conclude that the direction of the line of anastomosis is not of vital importance. Mayo* says that his antiperistaltic operation prevents the reversing of the jejunum and keeps the intestine in its normal direction; and we are inclined to follow him on this point as it seems anatomically well founded.

Regarding the number of sutures, Moynihan* uses two rows of silk stitches; and Bier* only one row of Lembert (silk) stitches in posterior gastro-enterostomy, and though he says he never had an accident, we would not dare to follow his example. With Mayo,* and Roux* and others, we hold that the third row (the muco-mucous suture) is necessary to insure hemostasis and rapid healing of the mucosa. Whether this muco-mucous suture could be done with catgut in ulcer cases, the near future will probably show; but it has been proved that catgut is not safe in cancer cases.

All agree that if a meso-colic band from Treitz's ligament extends down the jejunum, it must be trimmed backward as otherwise it may conceal a long loop of intestine. All recommend a large stoma three to four fingers in width (Kocher says six cm.). Clamps are in general use (since recommended by Moynihan), and lately three-blade clamps have been very popular. We prefer the light Linnartz three-blade clamp (which has elastic branches and is used without rubber covering), to the heavy instruments of Roosevelt, Lane and others. Kocher [28] objects to clamps on the ground that he has seen hemorrhages after using them. We think that we can control bleeding by an exact muco-mucous stitch and would not forego the great technical aid of the clamps, unless we should have a very reliable assistant.

Technic of Posterior Retrocolic Gastro-Jejunostomy: In the description of the technic, I follow the teachings of my former chief, Professor Roux,* and also the writings of the Mayos,* Moynihan,* Paterson,[29] Kocher* and others.

The abdominal wall is opened in the epigastrium by a longitudinal or a transverse incision. The transverse incision is preferable because it heals better and causes less pain to the patient after the operation. As the normal tension of the abdominal wall tends to approximate the edges of the transverse incision, a continuous catgut stitch placed on the posterior sheath of the recti, and another on the anterior sheath, is all that is needed to insure good union if we take care, when closing the abdomen and for the first week after the operation, to keep the patient with his shoulders somewhat raised. (This incision will also be sufficient for pylorectomy, if it should be necessary.) The abdomen is carefully explored (even if this should take five or ten minutes) until some organic lesion has been found. As soon as the diagnosis is confirmed, the stomach, transverse colon and omentum are withdrawn from the abdomen, turned upward, and covered with warm pads dipped in saline solution. The surgeon now opens the transverse mesocolon with Mayo's scissors in a bloodless space, taking great care—especially in fat subjects—to avoid all branches of the arteria and vena colica media. From above the surgeon pushes the stomach through the opening until the greater curvature and a surface of four to five inches of the posterior wall of the stomach (near the pyloric antrum) can be seen. The origin of the jejunum is now sought and is freed from the mesocolic band if one is present, and a long and narrow gauze pad is placed between stomach and jejunum. A point is now chosen on the convexity of the jejunum, about one and one-half to three inches from its origin (this constitutes Mayo's short loop) and united by a single silk stitch to a point of the posterior stomach wall somewhat away from or above the greater curvature. Three inches below this first stitch, on the distal part of the jejunum, another point is chosen and united by a single stitch to a point of the stomach quite near the greater curvature, three inches apart from the other stomach point chosen. These two silk stitches, which have been left long to be used as traction sutures, are now made tense, and in the space between them the stomach and jejunum are united by a continuous silk suture (the posterior sero-serous suture), taking care to run it in a straight line on the convexity of the jejunum, equally far from its mesenteric border all along. By this first sero-serous suture we give to the anastomosis the exact length and direction we wish it to have. *Now and not before* (as seen in all text books) is the time to apply the clamp. There are three good reasons for this technic:

The first is that as a rule hemostatic appliances, like Esmarch's bandage or intestinal clamps, must shut off the circulation for the shortest time possible.

Second: As no hemorrhage or leakage takes place during the first sero-serous row of suture, the clamp is not necessary for this stage of the operation.

Third: The first sero-serous row of suture, when completed, acts as a guide and greatly facilitates the proper placing of the clamp, the middle blade going naturally under it.

The operator with his left hand seizes the stomach and jejunum along the line of anastomosis and lifts them gently. Holding in his right hand the open Linnartz clamp, he passes the middle blade under the suture; with his left hand he rolls the stomach and jejunum in, slightly against each other, so as to be sure to have the thickness of all three coats in the clamp and plenty of material for

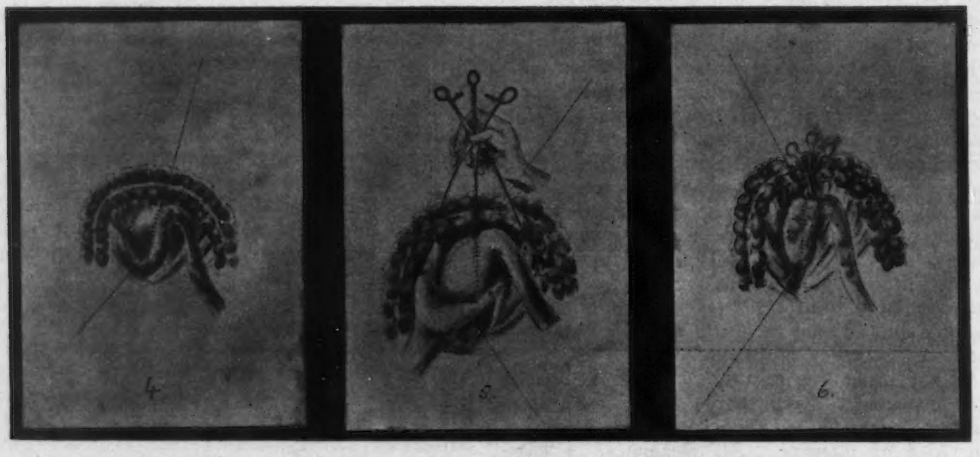
the three rows of sutures; and he closes the lateral blades gently but firmly on the stomach and intestine, seeing that the clamps embrace a fold of stomach and intestine of three and one-half to four inches in length. The transverse colon, omentum, etc., are now returned to the abdomen. The clamp is given a more horizontal direction on the abdominal wall, and is surrounded on all sides by gauze pads, protecting the abdominal cavity. The rest of the operation can now be completed safely and with much ease under a very light anesthesia.

The operator, pressing gently on the stomach and jejunum in turn so as to flatten their surfaces, makes on both of them, respectively, a longitudinal incision of two and one-half inches in length, dividing the sero-muscular coat five mm. away from the first sero-serous sutures on each side. The posterior part of the sero-muscular suture is now sewn with continuous silk and a straight needle. (Some surgeons use a curved needle; we prefer the ordinary straight needle, as it allows us to sew very much quicker.) While the assistant holds some loose gauze near the incisions, the operator now seizes with a small toothless anatomical forceps the still unopened mucosa of the stomach and opens it with Mayo's scissors along its outer margin on the whole length; then he does the same on the intestine, the assistant catching the contents quickly. The opening in the mucosa must have exactly the same length on the stomach and on the intestine, but no excision of mucous membrane is necessary. After swabbing the interior of the musocae with dry sponges, the surgeon unites the mucosa of the stomach and intestine in a very exact manner, first on the posterior, then on the anterior edge of the anastomosis, with a continuous silk or catgut suture done as a buttonhole suture—that is to say, passing the thread in the loop at every stitch so that there will be no danger of the opening becoming contracted when we pull the last stitch to tie the knot. (For the other coats it is sufficient to pass the thread in the loop only every three or four stitches.)

Between each row of sutures, and especially after closing the mucosa, the surgeon and assistants rinse their gloves in sterile water.

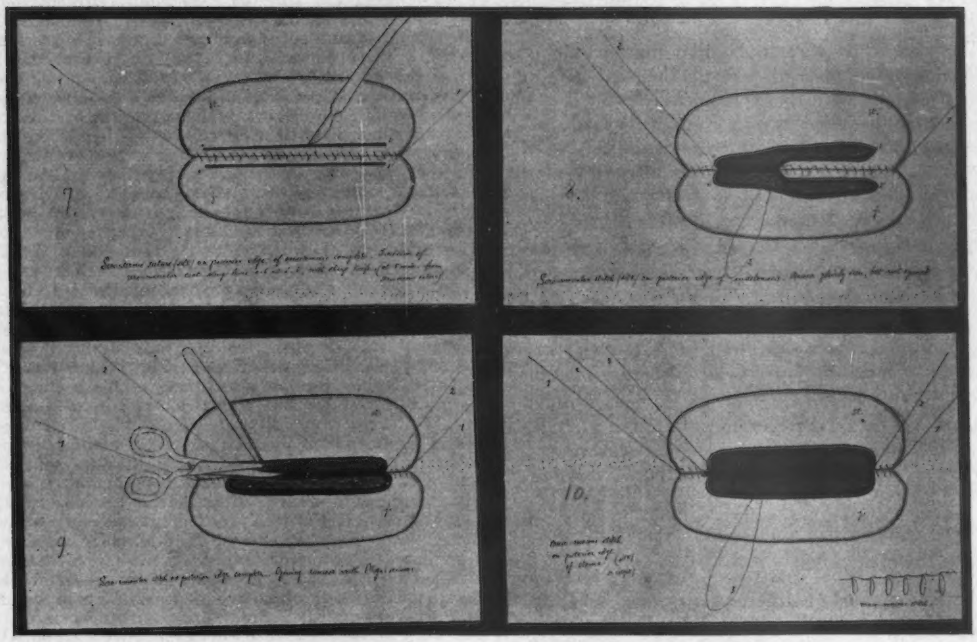
We now place the anterior sero-muscular suture (with a continuous silk stitch), completely burying the mucosa. The pads surrounding the anastomosis and the clamp are now removed; the gloves are rinsed in sterile water, clean pads are put around and beneath the anastomosis, and the anterior continuous sero-serous suture of fine catgut is applied. The three rows of sutures must be run near each other so as not to narrow the lumen of the intestine, remembering also that the first row (sero-serous) overlaps the second (sero-muscular), and the second overlaps the third, or muco-mucous.

All pads are now removed. The edges of the opening in the transverse mesocolon are fixed, not to the jejunum but to the stomach, three-quarters of an inch away from the line of anastomosis by four or five interrupted catgut stitches so as to prevent the formation of a hernia into the bursa omentalis. The anastomosis is tested from above; its width should be from three to four fingers. If small gauze sponges have been put in the stomach or intestine during the operation to absorb the secretions, they must be pushed down the jejunum now, as otherwise they might cause distress until vomited. The abdominal wall is closed as indicated above.



Anterior Gastro-Enterostomy, or Woelfler's Operation is preferred to the posterior in all cases by a few like Woelfler, H. Paterson, Kümmell. However, the majority of surgeons will do it only when von Hacker's method is impossible on account of adhesions on the posterior wall of the stomach, or in fat people when the posterior operation cannot be done outside of the abdomen unless a long loop of jejunum is left above the anastomosis.

Paterson * and Kocher, * comparing the two methods, say that there is more vomiting and a longer convalescence after the anterior operation, but the remote results are better: there are fewer adhesions, and in case of subsequent trouble it is very easy to re-operate; the technic is also much more simple. Peptic ulcer and vicious circle are slightly more frequent after the anterior than after the posterior operation; but apart from that, we can say that anterior gastro-jejunostomy is a very

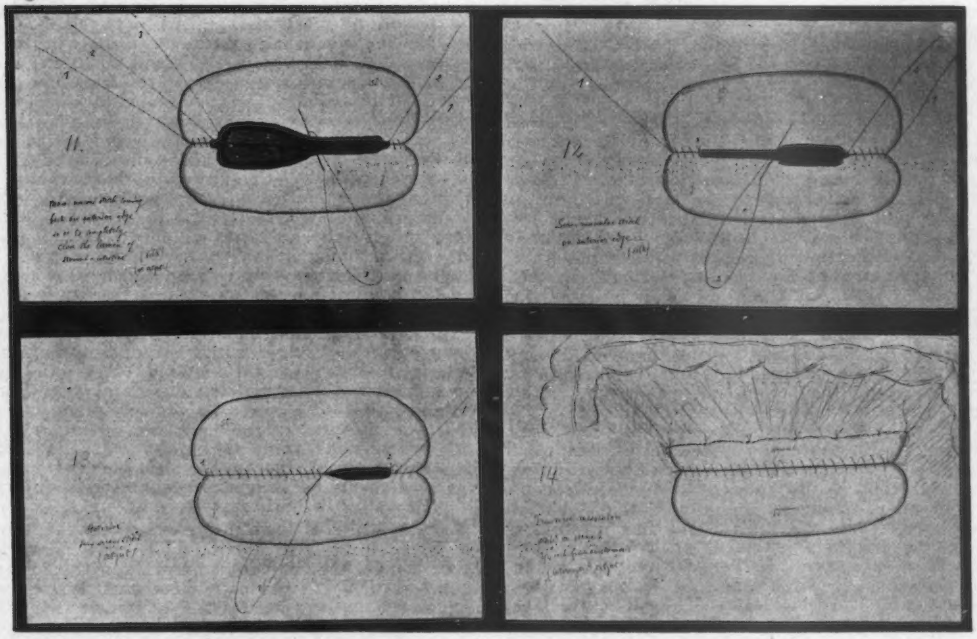


7—Sero-serous suture (silk) on posterior edge of anastomosis complete. Incision of sero-muscular coat along lines a-b and 31-b1, with sharp knife (at 5 mm. from sero-serous suture).

8—Sero-muscular stitch (silk) on posterior edge of anastomosis. Mucosa plainly seen, but not opened.

9—Sero-muscular stitch on posterior edge complete. Opening mucosa with Mayo's scissors.

10—Muco-mucous stitch on posterior edge of stoma. (Silk or catgut.) Muco-mucous stitch.



11—Muco-mucous stitch coming back on anterior edge so as to completely close the lumen of stomach and intestine. (Silk or catgut.)

12—Sero-muscular stitch on anterior edge (silk).

13—Anterior sero-serous stitch (catgut).

14—Transverse mesocolon stitched to stomach three-fo urths inch from anastomosis (interrupted catgut).

good operation, which can be done confidently when indicated.

The technic is very much like that of the posterior operation, except that the loop of jejunum must be very long (16 to 20 inches=50 cm.), the stoma must be long too (2½ to 3 inches), with a longitudinal direction, at the lowest part of the greater curvature near the pyloric antrum, and the suture of the stomach and intestine must be one-half inch longer than the stoma at each end.

As to Roux's Y-shaped gastro-jejunostomy, Braun's anastomosis, and all operations with sutures running across the long axis of the jejunum, we do not do them any more in ordinary cases.

Kocher's gastro-duodenostomy and Finney's operation are very useful in some instances, but they have few indications.

A recurrence of the symptoms of ulcer after gastro-enterostomy takes place in the following proportion, according to different authors: Kocher,* 8%; Bush,[30] 10%; Burk,* 20%.

Moynihan reports 70% of his cases as totally cured, and Kocher* 92%.

The mortality of gastro-enterostomy, according to the publications of different surgeons, is: Mayo* 2.4%, Kocher 1%, Bush 2 to 3%, Herbert Paterson 3%, Burk 3.3%, Moynihan 1 to 2%, v. Haberer[31] 6 to 10%. (I have done 16 cases with one death, 6%.)

Conclusion: The technic of gastro-enterostomy has been so perfected in recent years that the mortality from this operation should not exceed 3% at the present time.

Discussion.

Dr. Dudley Tait: In listening to Dr. Campiche my thoughts reverted to Lausanne, the beautiful town in Switzerland known to all surgeons as the home of Roux, the most brilliant pupil of the world's greatest living surgeon, Kocher. To have served a half decade as first assistant to a European master is a privilege given to few and must cause envy in many. Whenever, of late, I listen to discussions on surgery of the stomach or intestine, I cannot help protesting against what I believe to be a heresy, and that is the traditional mechanical conception of the gastro-intestinal tract. The sooner surgeons divorce themselves from that mechanical conception, the sooner they go from the anatomical to the physiological side of the question, and the sooner they remember that in dealing with the stomach they are dealing with a contractile organ, the clearer the operative indications will become and the better the final results. The average surgeon, in considering an operation, is satisfied with the mechanical viewpoint. He generally forgets the more important, the physiological side, especially when the gastro-intestinal tract is concerned. The word "drainage" typifies this condition of mind among surgeons, and it is doubtful if our books contain a term which has given rise to as many errors in judgment as has this unfortunate term—drainage. If we substitute for it the term peristalsis and remember that the gastro-intestinal tract is a chemical and physiological laboratory, we shall prepare the field for rational surgery and do away with uncalled for plumbing.

The operation of gastro-enterostomy is such an old and well-regulated operation that there is not very much to be said regarding its technic. However, there are a few points which one may be permitted to dwell upon. The advice given by Dr. Campiche to operate outside the abdomen is very sound, but I am sure he will admit that in many cases this is absolutely impossible, especially in the class of adherent malignant cases. In these cases, I think he will agree that a button may be of great service; likewise anterior gastro-enterostomy which, as he says, is a very good operation under certain conditions. The direction of the gastric incision has been accentuated by many authors. Experimentally, it has been shown that no matter what the direction of the incision be, the resulting stoma tends to become oval, if not circular. The muco-mucous stitch is not only hemostatic but constrictive and always causes a certain loss of tissue, thereby widening the stoma. Hence the futility of excision of the mucosa. The use of clamps is the all-important part of the technic of gastro-enterostomy; and, in my opinion, clamps are responsible for a great part of our trouble. The mode of applying the clamps was carefully gone over by Dr. Campiche, and this constitutes the most valuable part of his paper. Most surgeons apply the clamps too early in the operation and remove them too late; they should be removed after having completed the muco-mucous stitch. We should remember, in using clamps, that the longer we leave them in place, or the more forcibly these clamps are applied, the more and the longer peristalsis is inhibited. This has been shown many times experimentally. Undoubtedly, in poorly resisting tissues, malignant cases for instance, clamps must cause considerable damage. It seems to me that if our operative results differ in benign and malignant cases, it is partly on account of the unnecessary traumatism which we inflict with clamps. On the other hand, I have seen trouble directly traceable to failure to use clamps. I recall one case of an enormously dilated malignant stomach in which the interne reported having washed out the stomach repeatedly and successfully. At operation no clamps were used. Upon opening the stomach, at least a pint of putrid fluid escaped, soiling the field of operation and eventually causing the patient's death. From this case I learned the lesson to place the patient in a slightly inclined plane whenever gastro-enterostomy is to be performed without the use of clamps. In the matter of new operations, or departures from the typically classic operation, Dr. Campiche referred to gastro-duodenostomy as Kocher's operation. Having been guilty of writing an article on this subject for the State Society nine years ago, I would like to quarrel with Dr. Campiche on the question of priority: the operation in question was originated by Villard, of Lyons. Kocher has done so many great things that he can well afford to relinquish this rather unimportant contribution. Roux's Y-shaped gastro-enterostomy, a specimen of which I had the honor of presenting to this Society in 1900, is a good operation anatomically, but physiologically a poor one. Hence its well-merited fate. Monprofit, the French champion of Roux's anastomosis, reported several hundred cases and then abandoned its use completely. Several years ago, while in Europe, I saw two remarkable instances of late ill results from the Roux operation. In both cases, upon re-operation, it was found that the gastric loop of the anastomosis had completely separated from the stomach. Peptic ulcer was the probable cause in both cases.

Dr. Campiche alluded to the mortality. I think we should make a distinction between the mortality in benign and in malignant cases. No one can claim less than 15% in malignant cases, whereas in benign lesions the operation is comparatively a harmless one. Parenthetically, it may be stated that in San Francisco and along this coast, the mortality in gastro-enterostomy has increased during the past 12 years. The reason is probably as follows: Ten or fifteen years ago the sole indication for gastro-enterostomy was pyloric stenosis; to-day the field of indications for operation has been greatly enlarged, but many surgeons are offer-

ing gastro-enterostomy as a cure-all. Operators do not seem to have kept pace with physicians. Whether the recent increase in short cuts to surgery has anything to do with this condition, I am not prepared to say.

The question of pyloric exclusion is inseparable from any discussion of gastro-enterostomy. We should not lose sight of the fact that when juxtapyloric ulcers are unrelieved by gastro-enterostomy, considerable benefit may follow a subsequent exclusion of the pylorus. I have seen this in one personal case and in the practice of several continental surgeons. The only positive method of excluding the pylorus is von Eiselsberg's method. All the other methods—Lambotte's sub-mucous purse-string, Berg's slightly modified purse-string, Wilm's fascia method, Brewer's metal band—are miserable failures. The recent Bartlett transgastric method is under trial. Unfortunately, von Eiselsberg's is an operation of no inconsiderable magnitude. Utilizing the sub-mucous resection method, which I made known four years ago before this Society, and adopting a suggestion from Biondi, I have worked out experimentally at the University of California Surgical Research Laboratory, the following plan for excluding the pylorus. A longitudinal incision of three to four cm. is made just beyond the pylorus down to the sub-mucous layer. By blunt dissection, the mucous canal is entirely separated from the surrounding sero-muscular layers. An angiotribe or crusher is then applied to the unopened mucosa over an area of 1 cm., reducing it to a ribbon, each end of which is ligated with fine silk. A few Lembert stitches complete the operation, which is bloodless, aseptic and radical, as demonstrated experimentally.

Dr. J. H. Barbat: I simply want to say a word in defense of the Murphy button. As a matter of actual fact, in the cases in which the Murphy button has not succeeded, in which bad results have followed its use, it has been due to faulty technic. If you do not put the button in properly, and if you do not have a good button, you will not have good results—you will have leakage and hemorrhage. I remember two cases in which the surgeon had to take the button out because he had left the ends of his silk ligature projecting between the edges of the button. That was not the fault of the button; it was the fault of the surgeon. I must say I do not use the Murphy button at present in my gastro-enterostomies. Dr. Murphy himself is using an oblong button. I use the short loop operation and am perfectly satisfied with it.

As far as making three layers of sutures is concerned, I do not consider it necessary. I make two, and I cannot see any reason why I should make three. I have had good results and no hemorrhages. I think accuracy in placing the sutures will eliminate the possibility, or at least the probability of hemorrhage, without the use of the third layer of stitches. In sewing through the mucosa if you pull your stitches at all tight, you are going to cut through. In fact, I believe that in sewing through any of the viscera, of the intestines or the stomach, if you pull your sutures tight enough, you cut through your mucous membrane and through your muscularis-mucosa and muscularis, leaving nothing but the fibrous coat and peritoneum.

If you pull a little too hard, you may cut through the blood vessels. As I demonstrated in my work on intestinal anastomosis, the edges of the button should be pressed sufficiently hard to squeeze out completely the mucosa, the muscularis and the muscularis mucosa, so that there would be nothing left in the bight of the button but the peritoneum and fibrous coat. I think the same should obtain in the placing of sutures, which should be pulled just tight enough to accomplish the same purpose. I think you will find that men who have had hemorrhages or bad results have pulled the sutures too tight or left them too loose. The degeneration of the intestine following these operations will be more rapid if the tissues are squeezed out in this manner, the peritoneum, of course, adhering first, then the fibrous coat, and the mucous coat last. The muscular coats invariably have a layer of rear tissue intervening, the muscle fibers never crossing. We have had the mucous coat pushed away in introducing the button, and after four or six weeks, would find that the mucous membrane had grown over the line of anastomosis. However, I do not believe that new mucous membrane develops at the site of an anastomosis, but that the cut edges are merely approximated, by the contraction of the muscular coat.

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DOES A RELATIONSHIP EXIST BETWEEN TUBERCULOSIS OF THE EPIDIDYMIS AND TUBERCULOSIS OF THE KIDNEY?*

By R. L. RIGDON, M. D., San Francisco.

So far as the urinary organs are concerned it is certain that the primary point of tubercular infection is the kidney. Opinions still differ widely, however, as to the point of primary attack in the genital apparatus, some maintaining that the prostate is the guilty party, and some that the epididymis should bear the opprobrium. All have been of the opinion that the involvement of one system has no relation to involvement of the other, except that of accident or contiguity. I wish to examine this question a little more closely by inquiring if the lighting up of tuberculosis in one has not a distinct relationship to a similar infection in the other.

In a study of 112 cases of tubercular epididymitis Barney found four only in which the kidney was involved. In another report he states that in 99 patients with epididymal tuberculosis 54% showed prostatic involvement in the first year and that 35% showed vesical symptoms. Keyes, in a report of 100 cases of tuberculosis of the epididymis states that 11 gave evidence of previous kidney involvement. In nine cases the extension took place from the testicle to the kidney. Three of these were in patients who had developed generalized tuberculosis. Cholzoff, in 74 cases of genital tuberculosis found five cases of kidney tuberculosis.

Dr. Isaacs says, "Cases are also noted where simultaneous infection of the kidney and of the testicle occurs and yet the communicating organs about the base of the bladder are not involved. Here we must assume that both infections are derived independently from the same source—the bacilli in the general circulation."

Brasch in 203 cases of renal tuberculosis reported from the Mayo Clinic found 60% with evidence of genital tuberculosis, the epididymis being most often involved.

In a somewhat careful review of a rather extensive German literature upon genital tuberculosis which was undertaken for me by Dr. Howard Somers, only occasional references were found to the subject under discussion and isolated cases only of extension from epididymis to kidney or vice versa were reported. A similar review of the general literature by the Nelson Research Bureau showed that but little had been written bearing directly upon the question.

The symptom complex of early kidney tuberculosis is, first, frequent urination; second, painful urination; third, pyuria; fourth, hematuria. It is noteworthy that all of these symptoms would suggest vesical, rather than renal, involvement, and it is only by careful investigation of a given case that the true site of infection can be determined. It is also probably true that these vesical symptoms are in reality rather late signs of renal disease, and that for a very considerable period the kidney has been infected, but has given no objective sign of its injury. We must recognize as a clinical fact that the kidney may be tubercular for a greater or less length of time without giving rise to symptoms. Lesions wholly confined to the cortex are probably often symptomless.

Following epididymal tuberculosis Barney states that 35% of his cases complained of vesical symptoms; that is, presumably, pyuria, hematuria, painful or frequent urination. He further states that in 104 urine examinations 43% were found to contain pus, blood and albumen. Of ten pig inoculations, eight gave positive findings.

This and similar evidence is considered by him and others to be clinical proof of the extension of the infection from the epididymis to the prostate and bladder, and the absence of symptoms directly referable to the kidney is taken as sufficient evidence that the kidney is not involved. Undoubtedly these conclusions are correct in many instances, but when we consider that this identical group of symptoms, in the absence of epididymal involvement, points almost certainly to the kidney as the primary source of the infection, may it not be true that in a not inconsiderable number of epididymal cases the symptoms are indicative of a renal, rather than, or in addition to, an epididymal starting point. In the presence of such a group of symptoms not associated with epididymitis we would not consider our investigation of the case complete until we had cystoscoped the patient and collected the urine from each kidney and made appropriate examinations of each sample. Only after such a thorough examination of the upper urinary tract would we consider that we had done full justice to our patient. Likewise it seems to me we should make such examinations in our tubercular epididymal cases. This had not occurred to me as necessary or desirable until quite recently. In fact, my mind was first turned in this direction by reading the article by Brasch, already referred to, but it was not until some time later that I sought to investigate the question.

In this connection I wish to report two cases:

No. 300—Age 30. General health has always been good. Has never been rugged, but on the other hand has not been sick. Has had no urinary disturbance until the onset of the present trouble. Contracted gonorrhea in September, 1912, and consulted me eight days later. He was placed upon the usual treatment for a time, but the discharge would not cease, and the Neisser diplococci could not be made to disappear. Since that time I have run the gamut of all the injections, and various lines of treatment I could think of, including vaccine therapy, but have never been able to stop the discharge entirely or to eradicate the gonococci. When he first consulted me, I noted in the course of the examination that both glasses of urine were cloudy, which struck me at the time as being rather peculiar, since his discharge had been present but four days, a time rather too short for extension back along the urethra. His urine still remains somewhat cloudy.

On December 7, 1912, he reported that his left epididymis was tender. Examination showed a slight beginning epididymitis, localized in the globus minor. This gradually increased in size and intensity of symptoms and then subsided, leaving a somewhat nodular condition of the epididymis.

In April, 1913, the right epididymis began to show signs of inflammation. This gradually became more intense and suppuration ensued and the

*Read before the San Francisco County Medical Society, Dec. 30, 1913.

abscess was evacuated in July following. Guinea pig inoculation with bladder urine was done in June, 1913, and the report after five weeks was positive for tuberculosis. Early in the course of his urethritis he reported a slight tinge of blood in his urine, but this passed away in a few days and I attributed it to the intensity of his urethral inflammation. No systematic examination of the urine was made, but at the time the pig inoculation was done it was noted that considerable microscopic blood was present. In November he reported a marked hematuria. After several days he came to the office and I cystoscoped him. At this time the urine was again free of blood and I could not learn by inspection the source of the bleeding. The general mucosa was normal. Both ureteral orifices appeared normal. The right ureter was catheterized and a sample secured for examination. The left ureter could not be entered.

Guinea pigs were injected with the mixed and right urine. In due time these pigs were killed and the report showed:

Pig injected with right urine, general tuberculosis.

Pig injected with mixed urine, general tuberculosis.

As no urine was obtained from the left kidney, it yet remains to be determined whether that organ is tubercular or not.

There have never been any symptoms other than the urinary symptoms to point to disease of the kidney, and most of the urinary symptoms could be readily accounted for by the urethritis and the epididymitis, so that the kidney lesion might have been overlooked for a longer time than was the case. If the true condition of the kidney had not been discovered when it was, but the examination had been delayed until such time as definite localizing kidney symptoms had manifested themselves, this case would undoubtedly have been classed as a primary tuberculosis of the genital tract with later involvement of the kidney. In all probability, however, the kidney was already infected when he contracted his gonorrhea. This would account for his cloudy urine and the hematuria already referred to.

Case 2725—Came to Stanford Clinic, September 6, 1913. Age 32; fisherman. Family history negative. Personal history: General health has always been excellent. Has never had any venereal disease.

Three months ago took ordinary "cold." In a few days his right scrotum began to enlarge and was painful; not sufficiently so, however, to prevent him from following his trade of fisherman. In about a month he consulted a doctor, who operated upon his testicle. The exact nature of the operation is not known, but probably an abscess was evacuated. Following the operation the pain and swelling subsided, but a fistula remained. It was for this fistula that he came for advice and treatment.

His general appearance was that of a man in robust health. He had lost no weight and had had no back pains or bladder symptoms. Physical examination showed lungs and heart normal. Abdominal palpation gave negative results. Neither kidney could be felt and no tenderness upon pressure was elicited. Left testicle and epididymis and cord normal. Right scrotum was enlarged and somewhat tender. The enlargement was due to an epididymitis and an accompanying hydrocele. The cord was normal. Prostate and vesicles were normal to the touch.

A diagnosis of tubercular epididymitis was made and an epididymectomy was performed on September 10, 1913. The pathological report on the removed tissue showed tuberculosis of the epididymis. He made a satisfactory operative recovery. On October 1 he was cystoscoped. The notes made at the time state that the trigone, the general bladder mucosa and the ureteral orifices were normal. Both ureters were catheterized and samples of urine obtained for examination. Guinea pigs were inoculated with mixed, right and left urine. On November 4 the pigs were killed and the report showed:

No. 1—Left urine, no lesion.

No. 2—Right urine, general tuberculosis.

No. 3—Mixed urine, general tuberculosis.

A phenolsulphonephthalein test was made which showed: Total excretion from the right kidney in 2 hours was 30%. Total excretion from left in 2 hours was 42%. An examination of the mixed urine made at the time of the patient's entry into the hospital showed a small amount of albumen and a few granular casts, also leukocytes and blood corpuscles.

There was nothing in the history of this patient that would point to a kidney lesion. The obvious thing was a tuberculosis which was apparently primary in the right epididymis. A more careful examination shows that he has a tuberculosis of the right kidney which in all probability antedated the epididymal infection.

In conclusion, it would seem to me very desirable that a more thorough examination be made of the upper urinary tract of patients with tuberculosis of the epididymis or prostate. I should not be at all surprised to find after a sufficient number of examinations have been made that there does exist a direct relationship between tuberculosis of the kidney and tuberculosis of the epididymis.

This question is not alone of scientific interest, but it is also of practical importance. It may well be that closer examinations may show that in a considerable number of patients requiring an epididymectomy for tuberculosis a nephrectomy likewise may be necessary.

Discussion.

Dr. Martin Krotoszyner: Dr. Rigdon's paper deals with the very interesting subject of the relation of tuberculosis of the genital to that of the urinary tract, a subject which, at the present time, occupies the mind of the foremost urologists. It is only a matter of a few years ago that tuberculosis of the urinary tract was thought to be mainly located in the baldder. We know now that the primary seat is in one kidney and that the bladder is only secondarily affected. The same is true of genital tuberculosis. It is now generally accepted that the process begins in one epididymis, from where it spreads to the other organs of the genital tract. Quite often the infection travels to the neck of the bladder and the trigone by contact from the prostate. In this way a tubercular ureteritis particularly of the portion of the canal adjacent to the bladder may occur. A positive guinea-pig test may thus be obtained, in case the ureter was catheterized a few inches only. If, on the other hand, the ureter in Dr. Rigdon's case has been catheterized up to the pelvis, this source of error can be fairly excluded. There is no reason why tuberculosis of the urinary and the genital tract should not exist in the same individual and, if sufficient evidence has been brought forward to ascertain that fact, the infected kidney should be removed. The report of such cases as Dr. Rigdon has presented, is particularly commendable since the literature contains very few references on similar observations.

Dr. G. L. Eaton: As to the relative frequency of t. b. of the kidney and the epididymis, there was an article published by Dr. W. J. Belfield recently, referring to the embryological characteristics of the epididymis and kidney, and that in many cases we have a right to believe that a homogeneous infection of the epididymis can occur per se, whereas on the other hand a tubercular involvement of the pelvis may take place at the same time —a polarization of the t. b.—by hematomesis. This

was from the embryological standpoint and to the relative nerve supply of the kidney and epididymis.

Dr. Martin Molony: To treat a case of tuberculosis of the testicle, or any part of the urogenital tract, as a separate entity is entirely irrational. Tuberculosis of the testes is but a single manifestation, in the great majority of cases, of disease in the genito-urinary tract at large. Consequently any separation into anatomical divisions is purely artificial. Tuberculosis of the testicle, being the commonest and most easily recognized form of tuberculosis of the genito-urinary system, indicates a tendency to the development of a generalized tuberculosis.

Clinical Report of Case.—A J., age 44 years. Eight years ago while lifting a heavy weight he got an acute, stinging pain in the right anterior renal region shooting down into the scrotum. The testicle swelled up and he consulted a doctor, who said it was a strain. After the swelling subsided a round lump the size of a walnut remained, which subsequently suppurated. It was opened by another physician who said it was an abscess. For six years after he was in good health and had no bladder symptoms. For the last two years he has had bladder symptoms.

Present condition: Large tuberculous nodule in right epididymis, small nodule in left. Tuberculosis in prostate and vesicles. Tuberculosis in bladder. Enlarged, palpable, tender right kidney.

Referring to the path of infection in urogenital tuberculosis: It is now generally held that the route is, in the great majority of cases, from the kidney to the prostate, and from the prostate to the testicle, the prostate being the gateway of entry to the testes.

Contrast two different groups. The first, gonorrheal urethritis and tuberculosis extending down the cord to the epididymis—lower pole—and not through the blood. Both are in the same category. If you agree that one does, you must admit the other.

The second group called metastatic (hematogenous) by some, such as mumps, typhoid, and variola, affecting through the blood stream, always begin in the testes (orchitis) and not in the epididymis.

Blandini, Walker, and others, in their experiments show, that by inoculating the urethra of guinea pigs, rabbits, etc., with bacillus prodigeosus and staphylococcus that the route of ascending infection to the epididymis and kidney is through the lymphatics, and the descending infections by the mucous tracts—the vas deferens, and ureter.

A REPORT OF TWO UNUSUAL CASES OF HERNIA WITH ABSTRACT OF THE LITERATURE.*

By J. J. A. VAN KAATHOVEN, M. D., Los Angeles.

The cases about to be presented to you, have been selected from records of my service at the Los Angeles County Hospital. The first is one of complete indirect inguinal hernia, on the left side. I bring it before you as it presents many unusual features. The history, in brief, is as follows:

A. M. McC., 67, male, widower, white, cowman by profession. Previous medical and surgical history, negative, except for some slight cardio-renal disturbance, some years ago. No digestive disturbance, no constipation.

History of present condition: Hernia of thirty years duration; he thinks it was caused by a horse falling on him. Patient wore a truss for fifteen years, but hernia has been gradually getting larger. The condition has been irreducible for the past twelve years. He has been unable to work for the past eight years.

Examination practically negative as to blood and urine; slight systolic murmur, at apex.

Patient walks, supporting the tremendous hernia in his hands. The interne described it, "about the size of a six quart bucket." The mass occupies the position of the scrotum, its greatest diameter is approximately 22½ inches,—its smallest, 17¾ inches,—total length from spine of pubis, 13 inches.

Operation: The usual incision, prolonged downward to bottom of scrotum. Aponeurosis of external oblique is somewhat attenuated, though in good condition. Internal ring has been dragged down to external, presenting appearance of a direct hernia, as is true in most cases of extensive and old hernias. Ring admitted three fingers easily, is oval in shape, longest diameter, three inches, shortest, two inches. Sac easily found and opened at the neck. Somewhat adherent to the fascia and surrounding structures, but not as much so as anticipated. Small intestines adherent to sac, also coils mutually attached.

Contents: Small intestines, practically from ligament of Treitz to ilio-cecal valve, cecum, ascending, transverse, and descending colon, as well as sigmoid; appendix easily recognized, not inflamed nor adherent.

The contents could not be returned to the abdomen, without enlarging the ring and putting the patient in exaggerated Trendelenburg posture. Great care was exercised, in returning gut, to avoid reduction "en bloc," to avoid possibility of subsequent strangulation. Sac freed, twisted, and removed, having been transfixed and tied by iodine catgut.

Repair by Andrews' method—the stretching of aponeurosis having made it ideal for the imbrication. Kangaroo tendon was used for the deep sutures, iodine catgut in fascia, Pagenstecher and silk-worm, in the skin.

Notwithstanding the long duration, the internal oblique and conjoined tendon were in good condition, hence the sheath of the rectus was not opened and repair was accomplished with transplantation of cord. Scrotum, which was three-fourths inch in thickness, was resected to the extent of twice the palm of the operator's hand. Rubber drain placed in lower aspect of wound. Usual dressing.

Prompt healing, but for slight skin infection of scrotum, due to patient's lack of care; discharged from hospital after skin infection had healed.

The points of interest in this case are, first and foremost, the tremendous mobility the abdominal organs may assume under pathological conditions. It is indeed, a startling experience, to find the appendix and cecum in a left-sided hernia.

Secondly, the absence of symptoms in this condition. Notwithstanding the fact that all the patient's absorption and elimination were carried on extra abdominally, through an elipse, three inches by two, he did not suffer from indigestion or constipation.

Thirdly, after returning the abdominal contents to its normal habitat, the patient had absolutely no symptoms, even though all the intestines must have occupied tremendously ptosed and otherwise abnormal positions.

Case No. II. Mr. P., male, single, Jewish baker. Family history negative. Past history negative, except patient has never been very strong. Only heavy work he has done is mixing dough, which he says is very hard work.

Present complaint: Four days before admission, while lifting about 100 pounds, patient suddenly experienced a severe pain and stretching sensation, in both inguinal regions. He continued his

* Read at the Forty-fourth Annual Meeting of the Medical Society, State of California, Santa Barbara, April, 1914.

work, though suffering considerably, but the next day found he could hardly walk, due to pain in both sides. A physician was called who said he suffered from a double rupture and sent him to the hospital.

Examination: Moderate well developed man of medium stature. General condition negative,—urine and blood analyses negative.

The affected regions present swelling about one and one-half inches, inside of the anterior superior spine, just below Poupart's ligament, on both sides,—the right side somewhat larger than the left. Overlying veins are tortuous and enlarged, giving rise to the preliminary diagnosis of varicose veins.

Palpation reveals a tense, cystic, non-inflammatory mass, giving a distinct impulse on coughing and straining.

Provisional diagnosis of femoral hernia is made, though the position is very unusual.

Operation: Through a four and one-half inch incision, starting at the anterior superior spine of the ilium, following and just below Poupart's ligament, dividing the skin and superficial fascia, the sac is revealed underneath the fascia lata. This being divided, the hernial sac is exposed, found flattened out, under the fascia lata, approaching line of vessels. It is easily freed from surrounding structures; it has a wide neck, is short, about the size of a hen's egg. When opened, sac is found to contain some fluid and omentum. The opening through which the hernia escaped, triangular in shape, lying entirely within the lacuna musculorum, easily admits two fingers.

The sac is pulled well out of the abdomen, perforated and tied off with plain catgut. Four chromic catgut sutures, bringing Poupart's ligament and the underlying muscles and the iliac fascia in apposition, obliterates the opening into the abdominal cavity. The fascia and skin are closed with continuous and subcutaneous catgut.

A similar operation was performed on the left side. Here the sac was smaller, not flattened out as much under the fascia lata, hence did not even approach the vessels or nerve, as it did on the right side. Did not contain omentum.

Healing was uneventful, patient getting out of bed, contrary to orders, on the seventh day. Discharged from hospital, in three weeks. The patient was seen in the office two months later, at which time he appeared perfectly well, there being no symptoms of any sort and no impulse upon coughing.

The anatomical and pathological findings of this case were so unusual, that in an effort to throw some light on the condition, I wrote to many men of great surgical experience and also reviewed the literature on extra vascular femoral hernia. Drs. Chas. Mayo and Judd, of Rochester, Edward Martin, Chas. Frazier and John B. Deaver, of the University of Pennsylvania, Dr. Ginsburg, of the same institution, in over 3000 autopsies, the Drs. Gibney, of the Hospital for Crippled and Ruptured, of New York, all assured me they had never met this unusual form of hernia. An abstract of the available literature, here and elsewhere, is remarkable only for its paucity.

The best articles are as follows: Moschcowitz of New York, in a contribution on "Prevascular Femoral Hernia" (Annals of Surgery, June 1912, p. 848), draws attention to the fact that these unusual femoral hernias are frequently associated with injuries of the hip joint, such as dislocations, especially those of congenital and other types requiring frequent manipulations. Narath's series of six is particularly convincing. No such injury or lesions can be found in this case.

E. Wyllys Andrews, in System American Surgery, p. 587: The bowel may exceptionally pass down externally, to sheath of femoral artery. This anomalous form has been called "external femoral hernia" by Bahr (1898) and cases have been reported by McIlvane, Narath, Fabiscius, Cloquet, and Axhausen (last probably Deutsch Zeitschrift für Chir., March and April, 1906). The route of these hernias is between the ileopectineal ligament and femoral artery, at which point the anatomical studies of Leinhart show that a weak place exists.

The very oblique direction of this ligament, from Poupart's ligament backward, leaves a triangular space, wider in front, which is somewhat unsupported in the immediate vicinity of the vessel sheath.

Hesselbach Sr. describes bands which pass from the anterior iliacus sheath to the transversalis fascia and crural arch, forming a sort of guide or septum, leading toward the weak point.

External femoral hernia may occur corresponding to the routes taken by the escaping bowel.

(1) Outside the great vessels.
(2) Alongside the deep epigastric vessels.
(3) Alongside the muscle, behind the vessels.

Maydl also describes a still rarer form which makes its way inside the vessel sheaths.

Bull and Coley, writing in Dennis' System of Surgery, state in re femoral hernia:

In very rare cases, the protrusions may appear directly over the femoral vessels, or even external to the vessels. Such a case has been observed at the Hospital for Ruptured and Crippled, in New York. It occurred in a child three years old and the same form of hernia was found on both sides. The protrusion was the size of a small hen's egg and the opening was slightly external to the femoral artery.

Coley, in Keen's System of Surgery:

Very rarely, the (femoral) hernial sac is found directly over the vessels. This type being designated as "external femoral hernia," examples of which have been described by Narath (Archiv. für Klin. Chir., 1903, Bd. 71). He discovered this form of hernia was often the result of trauma, particularly following attempt at reduction of congenital dislocation of the hip. Still more rarely, the hernia may emerge external to the vessels, or through the lacuna musculorum.

De Gamo (Book on Abdominal Hernia) says:

Macready (Treatise on Ruptures) gives an illustration of a case where three femoral sacs were found upon the same side in one patient. In Macready's case, one protrusion was through Gimbernat's ligament, close to the spine of the pubis, one at its usual place, and the third, just to the outer side of the femoral vessels. Condition not recognized during life.

Page 584—Bergman-Bull System Surgery: Hernia cruralis externa, as described by Hesselbach, is found especially in individuals with a broad

pelvis. It commences in the region of Poupart's ligament and extends downward, in conical manner, the base being quite broad. The tumor is flat, because it lies beneath the fascia and is covered, besides, by the muscular fascia, the fascia lata, and the iliac fascia.

Bahr reports three cases which developed after injury in region of hip.

Narath reports another variety of external hernia which appeared after operation for congenital hip. He reports six such cases in children between sexen years and eleven years, and some data on retro-vascular hernia and cruro-properitoneal hernia.

While many references are made to this abnormal variety of femoral hernia in the literature, I have failed to find an explanation of its occurrence. The etiology remains unexplained. That the defect in the muscular and fascial structure is congenital, seems even more certain in these cases than in the more usual types.

Though the history of three days' duration in this case is misleading, there is no doubt in the writer's mind, that the onset merely marked the descent of an unusual amount of omentum, or indeed, intestines, into the already existing sac.

Study of the anatomy of the part, as described by Hesselbach, Cloquet, and Sir Astly Cooper, of the last century, and the more modern anatomists, demonstrates the following facts:

The iliac fascia is attached to the internal arcuate ligament and covers the entire iliacus and psoas muscle. On the mesial surface, it is continuous with the pelvic fascia. Along the outer two-thirds of Poupart's ligament, it is attached to that structure. The inner third passes behind the femoral vessels, forming the posterior portion of the sheath ot the vessels. In doing so, it divides the space under Poupart's ligament, into a muscular compartment (lacuna musculorum), and a lacuna vasorum.

It is my opinion that the extra-vascular, or Hesselbach hernia, is dependent upon one of two, or both, anatomical defects, viz: a congenital partial lack of the iliopsoas, or a faulty attachment of the iliac fascia, it being fastened to Poupart's ligament only along its outer one-third or one-fourth, rather than the normal two-thirds, causing a weakened loculus, through which the hernia escapes.

THE MENDELIAN LAW AND ITS RELATION TO INHERITED CONDITIONS OF THE EYE.*

By BENJ. F. CHURCH, M. D., Redlands.

We owe largely our knowledge of the workings of inheritance in hybridization to the unpretentious studies of an Austrian monk, Gregor Mendel, who, although a contemporary of Darwin, was probably unknown to him. For eight years, in the middle of the last century, Mendel carried on original experiments by breeding common peas in the privacy of his cloister garden at Brunn.

As Galileo and others who lived beyond their times, Mendel's interpretation of nature's law was not appreciated or understood until after his death.

* Read before the Southern California Medical Society, at Riverside, May 6, 1914.

MENDEL'S LAW.

Mendel's cross-breeding experiments on peas showed certain numerical relations, which is now known as "Mendel's law," briefly formulated as follows: When parents that are unlike with respect to any character are crossed, the progeny of the first generation will apparently be like one of the parents with respect to the character in question. The character that expresses the character upon the offspring in this manner is called the *dominant*. When, however, the hybrid offspring of this first generation are in turn crossed with each other, they will produce a mixed progeny, 25 per cent. of which will be like the dominant grandparent, 25 per cent. like the other grandparent, and 50 per cent. like the parents resembling the dominant grandparent.

Mendel found that when peas of a tall variety were artificially crossed with those of a dwarf variety, all of the resulting offspring were tall like the first parent.

But, when these tall cross-bred offspring were crossed with each other, the resulting progeny were three talls to one dwarf.

On further breeding of the dwarf peas thus derived, they all came true, producing only dwarf peas. On the other hand, the tall ones were of two varieties, one-third "pure" like their tall grandparents, and two-thirds of them "hybrid," giving in turn the proportion of three tall to one dwarf, like their parents. Mendel termed the character, which, in this case tallness, the *dominant;* and the latent character which receded from view, in this instance dwarfness, the *recessive.*

As expressed by Bateson, the essence of the Mendelian principal is *first,* that in a great measure the properties of organisms are due to the presence of distinct detachable elements, separately transmitted in heredity; and *secondly,* that the parent cannot pass on to offspring an element which it does not itself possess. Each germ cell, ovum, or sperm may contain, or be devoid, of any of these elements; and since all ordinary animals and plants arise by the union of two germ cells in fertilization, each resulting individual may obviously receive in fertilization similar from both parents, or from neither, in these cases the offspring is "pure" bred for the presence of the character in question or for its absence. But it may be formed by the union of dissimilar germs, one containing the element, the other devoid of it.

In this case we call the individual cross-bred, or heterozygous in that respect.

CONDITIONS SHOWING DOMINANT DESCENT.

In man, many of the more definite hereditary diseases and malformations follow one or the other of the systems with which Mendelian analysis has familiarized us, dominants or recessives.

Having a dominant Mendelian inheritance, may be mentioned various bony and cartilaginous malformations, several varieties of skin and nervous diseases, pre-senile cataract, strabismus, ectopia lentis, coloboma, distichiasis, night blindness and retinitis pigmentosa. All these conditions descend as dominants.

It is characteristic of them that unaffected members of the families do not transmit these defects. In the human examples the individuals affected are almost always heterozygous, and hence, among the children born to their marriages with normal persons, we expect to find the affected and unaffected to be in equal numbers.

The occasional occurrence of strabismus in children of parents who are apparently not affected has caused confusion in the classification of this defect.

My observations lead me to believe that strabismus, or the conditions which produce it, is always a dominant hereditary character. The supposedly sporadic cases have, in reality, a hereditary foundation in a latent deviation of the eyes from parallelism in one or both parents. This, in the child, may develop into squint if their refractive error, which they most all have, is not corrected.

Donders first called attention to the close association of accommodation and convergence. And, as three-fourths of all cases of concomitant internal strabismus are hyperopic, their necessary accommodation, for good vision, encourages a convergent deviation.

Many family records could be reported, which confirm a definite ratio of dominant descent in accordance with Mendel's law. Suffice with one: Mr. ——, hyperopic, internal squint when a child. Eyes straightened by wearing glasses to correct his far-sightedness. Wife ——, hyperopic with internal squint, for which she underwent an operation. Three children; all far-sighted and cross-eyed, internal. One of the children's eyes remains straight while wearing correcting lenses.

RECESSIVE CONDITIONS.

Of recessive conditions in man we have less abundant evidence. Inasmuch as they usually appear from the unions of parents both apparently normal, though heterozygous for the condition, their occurrence is rare and sporadic. It is fairly well established, however, that feeble-mindedness, paralysis agitans, albinism, myoclonus, epilepsy and alcaptonuria come under the head of recessives.

They may all appear in children of normal persons, with special frequency as the result of marriages of related parents. Bateson says there can be no reasonable doubt that these conditions are due to the loss of some factor present in normal persons.

Albinism acts as purely a recessive character both in man and in other animals. An albinic individual mated to a normal individual will have no albino offspring. The children of this mating, however, would have the germ plasm with respect to albinism, and in cousin marriages might produce some albino children.

DESCENT OF SEX-LIMITED TYPE.

Another entirely different group is that in which the descent of abnormality is limited wholly or in part by sex.

The best known examples are those of the descent of color-blindness, hemophelia and one of the forms of nystagmus.

It is well known that color-blindness affects males with much greater frequency than females. Normal women transmit the affection to their sons, but it is rarely, if ever, transmitted by the father. It is well established that sons of color-blind males do not inherit the abnormality, and therefore can not transmit it. The daughters of color-blind fathers inherit it, and though it does not appear in them, they all probably have the power to transmit it to their sons. Sons of color-blind women will all be color-blind.

The same system of descent, sex-limited, is also manifest in one form of nystagmus as shown by Nettleship, and in hemaphelia.

Only seven cases of color-blind women are known in the world. They had seventeen sons, all of whom were color-blind.

The phenomenon of color-blindness appears to be clearly linked with the determiner for sex. It requires a duplex, or homozygous dose of the determiner for color-blindness to produce a color-blind female, while only a simplex, or heterozygous, dose is needed to produce a color-blind male.

These facts amply prove that the female is homozygous and the male heterozygous with respect to sex. A color-blind male mated to a normal female will produce no color-blind offspring, although the females will be "carriers" of color-blindness, possess the factor in a simplex form and will carry it *for the female* in a latent condition.

Sons of color-blind father and normal mother will be absolutely free from the defect and can not produce color-blindness in any of their offspring when mated with a normal strain. If, however, the "carrier" daughters from such a parentage mate with normal individuals, the expectation is that one-half of the sons, and none of the daughters, will have the defect. Of the daughters, one-half will carry the color-blind determiner in simplex form and may produce color-blindness in their sons but not in their daughters.

The idea of unit characters, capable of being inherited independently of one another, is one of the most important conceptions of the science of biology, the direct result of Mendel's work. Its conception leads to a complete change of our ideas regarding heredity, since we no longer look upon the individual as a unit, but find that we are compelled to study the independent characters of which the individual is composed.

Naudin long ago characterized the individual as a living mosaic.

Formerly it was believed that individual traits would become attenuated, blend and be lost in the melting-pot by repeated union with uncontaminated stock.

We know now that the unit characters do not blend; that after a score of generations a given characteristic may appear wholly unaffected by repeated union with foreign germ-plasm.

Our attention must be directed to the individual, as a bearer of a potentially immortal germ-plasm which has immutable traits for good or evil.

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CONSERVATIVE AMPUTATIONS OF THE LOWER EXTREMITIES.*

By CHAS. E. PHILLIPS, M. D., Los Angeles.

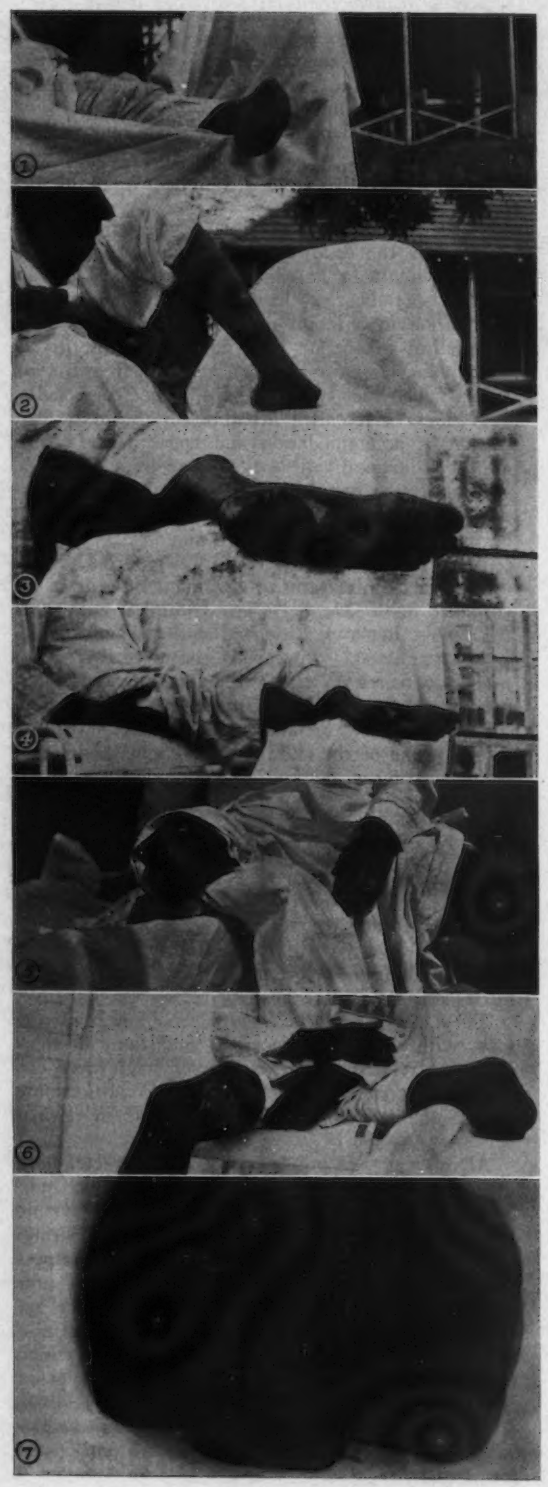
A subject upon which volumes have been written is too large to be reviewed in the short space of time at my disposal. Hence I will merely touch upon those things which have been out of the ordinary in my experience covering a period of nearly eight years in the chief hospitals of the Canal Zone, Panama, comprising one of the greatest accident clinics in the world.

Amputations are not given the serious consideration that they deserve. For example: A patient is brought to the hospital with a crushed foot. It is apparently too badly damaged to be saved, or at least the anterior portion is destroyed and there is insufficient uninjured tissue for the formation of adequate flaps. The patient is informed that the foot will have to be amputated. His consent is obtained; he is anesthetized and a stereotyped amputation of the leg is performed. The man's occupation, station in life, financial condition, whether he is to be permanently incapacitated to follow his usual occupation, is not considered. Perhaps he is a common laborer of slight means whose work frequently causes him to stand in water. The amputation of this man's leg necessitates the purchase of an artificial leg which he cannot afford. The artificial leg will not long endure in his occupation if it is procured. Had these facts been carefully considered at the time a modified foot amputation might have been done, taking, perhaps, infinitely more time and care, and causing greatly increased suffering, while the appearance when completed is not good but in spite of all, the man's usefulness is not destroyed. Possibly he walks with a limp, but he is able to work in almost any place and under almost any conditions and—what is of vital importance—is self-supporting.

On the other hand if the man is a teacher, or business man leading a sedentary life we should favor a leg amputation even when a partial foot amputation were possible. He would then be able to get a well fitting and carefully adjusted artificial leg which would not be apparent to a casual observer and which his means would always enable him to procure and keep in order.

What holds good in regard to the foot may with equal force be said of the leg and thigh. So we see the importance of taking all factors into consideration before amputating a leg. That is, we should first consider the condition of the leg then the general condition of the patient, physical, mental and financial, occupational and temperamental. What would be eminently the proper thing to do in one case would not do at all in a similar local condition in another case from a different station in life.

First, I will take up injuries to the plantar pad. We have ordinarily considered that loss of any considerable portion of the plantar pad led to absolute disability and I have seen many legs amputated on account of that condition.



* Read before the Medical Symposium Society, June 30th, 1914.

The first case that directed my attention to what could be done in these cases, was a case, L. N., brought to Ancon Hospital with traumatic amputation of right leg in the middle third and a crush of the anterior part of the left foot with loss of the plantar pad back as far as the heel. See Figs. 1 and 2. An amputation of the left foot, which was apparently indicated, would result in a cripple who would not be self-supporting. Realizing what was at stake, I trimmed up the lacerated tissue, cut off the metatarsal bones where they projected out too far, carefully sterilized the lacerated area and dressed it. After the lapse of six weeks, the bones were covered with good healthy granulations and a Thiersch skin graft was done, covering a good portion of the plantar, sides and portion of the dorsum of the stump. The graft took perfectly and within a month the patient was able to get around on it with the aid of crutches. He was furnished an artificial leg for the opposite side and left the hospital. Three years later he returned to the hospital for a new artificial leg, when these pictures of the foot were taken. He stated that the skin-grafted area had given him no trouble at all and that he had been able to work uninterruptedly for three years. He stated that occasionally he would grow corns on the grafted area and would have to trim them. Walking on it caused no abrasion or ulcerations.

Case two, C. P., injured July 16, 1913, was similar to case one except the heel pad with a portion of the os calcis was crushed off at the same time the opposite leg was crushed. Realizing the hopelessly crippled condition that would result from an amputation of both legs, the lacerated left heel was cleansed and dressed after the right leg was amputated in the upper third. Dressings were continued until the remainder of the os calcis was well covered by granulations when the heel was skin grafted, September 18, 1913, two months after the injury. Figs. 3 and 4. In two months more the patient was able to walk on the grafted area by aid of crutches. Walking caused the grafted area to thicken and no sign of abrasions appeared.

These two cases illustrate what it is possible to accomplish in plastic work on the soles of the feet and exemplify the old adage that "growth is the correlative of function." The thin Thiersch graft becomes thickened and indurated with use, capable of performing its function admirably. There is one point to be remembered. It is essential that the entire denuded area be covered with the graft because scar tissue between grafts will not stand use without becoming abraded.

Now I shall consider the old stereotyped amputations through the foot such as Chopart's, Lisfranc's, Pirogof's and others' briefly. In my opinion they should seldom be considered operations of election but they should be considered in every case where it is necessary to remove a portion of the foot. Many surgeons will not perform an operation through the tarsals because they consider it unsatisfactory and when amputation is needed elect to perform it through the middle third of the leg.

In my work a large majority of the cases were from the poor laboring class and I went on the assumption that a poor leg, which they would always have with them, i. e., their own, was better than an artificial leg which they would not be able to keep in repair or replace when worn out. Then, anyway, when a leg is not satisfactory it can be cut off. Therefore, I tried the various methods a number of times and watched the results carefully and finally, while I got some very good results with other methods, they were not uniformly so I practically discarded the amputations through the tarsals except by the Pirogof method.

The Pirogof amputation, as you all know, consists in cutting of the articular surface of the tibia and fibula, and the upper portion of the os calcis and fixing the remainder of the os calcis on the ends of the tibia and fibula. This results in a shortening of about two inches and the patient walks on the heel. While this results in a limp, I must say it is the most satisfactory tarsal amputation we have. A man doing ordinary hard labor can get along fairly well with this sort of amputation and he isn't absolutely dependent upon a mechanical appliance to get about.

When the entire foot must be removed we find the results more satisfactory if we go to the middle of the leg or even to the junction of the middle and upper thirds of the leg to amputate, not to start the amputation there, but to so cut the flaps that the bones may be cut there. One word of caution repeated—if the amputation is at or above the junction of the middle and upper thirds, a resection of the remainder of the fibula will save trouble and annoyance.

When we come to amputations in the upper third of the leg we fight for every inch in length of stump. A stump four inches long below the knee enables the patient to manage an artificial leg quite well but a stump only two inches below the knee hardly gives any advantage over a knee amputation, hence our utmost efforts to retain a sufficient length below the knee. In a few suitable cases where there was not tissue for flaps and the knee joint and a few inches of tibia remained, I have resorted to the expedient of dressing the wound open until the bone is well covered with granulations and then cover it by means of a musculo-cutaneous flap from the opposite leg and thigh. This method I reported with a couple of cases in the *Journal A. M. A.* of November 15th, 1913.

Cut five shows the first case treated this way nearly five years after I performed the operation. The other case reported in the *Journal* was one of a thigh amputation. The musculo-cutaneous flap to cover was taken from the opposite thigh beginning nearly in the gluteal fold and was about six inches square. Unfortunately, I have no satisfactory picture of that case.

I have now another case which I desire to report, F. E., admitted to Colon Hospital, May 18, 1913, with a crush of the left leg at the junction of the middle and upper thirds. Anterior tibial vessels were destroyed but as there seemed to be slight circulation remaining in the posterior tibial vessels an attempt was made to save the leg. Two days later, however, it was seen the attempt had been unsuccessful. Gangrene had set in and it was necessary to amputate. The gangrenous tissue was cut off, leaving the end of the stump wide open—the tissue and skin retracted nearly to the knee, while about four inches of tibia remained. This was dressed until the end

was covered with good granulations. On July 28, 1913, a little over two months after the amputation, I performed an autoplastic operation covering the protruding bone by means of a flap from the opposite thigh. Sixteen days later the flap was severed from the parent leg and the denuded area was skin grafted. Fig. 6 shows the final result of the operation.

We now come to a class of cases where it is impossible to save by any means at our command a useful stump below the knee. I have reference to disarticulations and amputations through or near the knee joint. Disarticulations have not been satisfactory. The osteoplastic amputation of Gritti has been a failure as far as furnishing a satisfactory end bearing stump. The same may be said of Stokes's modification of the Gritti operation. In fact, disarticulations of the knee and amputations through the lower part of the femur have been so unsatisfactory that most operators have abandoned them entirely and when they find it impossible to amputate through the leg they select the junction of the middle and lower thirds of the thigh as the point of election. But in doing this, shock, liability to infection and subsequent usefulness are sacrificed to a greater or less extent. Shock increases with every inch removed from the thigh. A knee joint amputation offers only a moderate shock, a mid-thigh great shock. The opening up of the marrow canal and severing the bulky muscles increase the danger of infection when it occurs, and finally the more or less conical thigh stump does not afford a satisfactory attachment for prosthetic appliances.

With these facts in mind I devised a knee joint amputation which I believe combines all the advantages of disarticulation with the osteoplastic operation. In my hands and in the hands of others it has been tried and found to be very satisfactory. By this operation both the condyles and patella take their relative share of the weight, and we have a condition simulating that of the acutely flexed knee which will satisfactorily take the weight of the body. I described the operation in the *Journal A. M. A.* of January 6th, 1912. It consists of a disarticulation with a long anterior flap reaching from the tuberosity of the tibia and containing the patella and patella tendon. This flap is turned up and the posterior surface of the patella sawed off, likewise the edges are sawed off with a bevel so the anterior and upper portion of the patella is narrower.

A piece of bone is now chiseled from the intercondyloid notch in such a manner as to leave the notch broader at the bottom and toward the popliteal space. The patellar tendon is grasped, the patella drawn forcibly down and allowed to dovetail into the space prepared for it. The patella tendon is now sutured to the hamstring tendons and the wound closed.

Fig. 7 shows a skiagraph of the lower end of the femur several years after the operation. The patella can be seen in outline.

This patient, a railroad conductor, was brought to Ancon Hospital suffering from a crush of the leg in the upper third, so high up that by any method described at that time other than a Gritti, a thigh amputation would have been necessary. By means of this operation, however, I was able to give him an end bearing stump through the knee and by thus pulling down the patella with its attached skin and fascia, I had enough tissue to cover the end of the stump, the suture line running posterior to the bearing surface. A few months after the injury he resumed his duties as a conductor and worked eight to ten hours a day on his feet without causing discomfort or abrasion on the end of the stump.

In conclusion, I desire to emphasize the necessity of considering everything before undertaking an amputation of the lower extremity. The patient's age and conditions, physical, financial, mental, temperamental and occupational should be weighed carefully in order to select the means of best minimizing his disability. I would recommend for your careful consideration the possibility of repairing serious and even apparently hopeless injuries to the lower extremities by means of plastic operations. The use of the Thiersch graft to cover defects in the plantar surface of the feet. The use of the autoplastic operation to save adequate length of stump in leg and thigh amputation and lastly a knee joint amputation that has been found to be both practical and satisfactory.

Illustrations.

Figs. 1 and 2—Showing the ultimate result of a skin graft on the plantar surface of the left foot, right leg being amputated. By thus preserving the foot the patient was able to work and become self-supporting.

Figs. 3 and 4, Case 2—Showing amputation of right leg and plastic on left heel.

Fig. 5—Showing result of autoplastic operation by which a musculo-cutaneous flap is transferred from sound leg to cover end of stump. Picture taken four years after operation.

Fig. 6—Latest case of autoplastic operation showing the large amount of tisue transposed and area from which is was taken.

Fig. 7—Skiagraph of lower end of femur taken several years after the amputation, showing the final result of dovetailing the patella between the condyles of the femur. The patella has grown into place and furnishes an ideal end bearing stump.

A CASE OF ABDOMINAL PREGNANCY.

By WILLIAM HIMMELSBACH, M. D., Watsonville.

Many obstetricians believe primary abdominal pregnancy only possible theoretically, and according to Webster it is impossible for the ovum to form an attachment, where it can develop, except in tissue derived from the Millerian duct, and apparent abdominal pregnancy, is secondary to tubal origin.

Bumm claims, in rare cases, that by pressure of the ovum, the tube gradually yields, and the tear leaves uninjured the placental situation. Hemorrhage is but slight, and the usual catastrophe avoided; but the fetus slips through the opening of the sac, sometimes accompanied by the membranes, or if these are torn, naked into the abdominal cavity, and there undergoes further development; that is, a tubal pregnancy is converted into a secondary abdominal pregnancy, the placenta re-

maining fixed at its original site, and by branching out, adheres to the peritoneum, broad ligament, etc.

In the following case I do not believe the ovum did anything of the kind, but instead of progressing forward, into the uterus, migrated backward, fell into the abdominal cavity, and striking a favorable spot, underwent further development.

Mrs. R. Presented herself for examination May 1st last, and gave the following history: Age 26, one living child, age seven years, birth normal. No pregnancy intervened between first and last. Menstruation was regular, up to the early part of September last, when it ceased. In the latter part of March, this year, felt fetal movements, which were not apparent two weeks later. Sense of fulness in the breasts, never had abdominal pains or hemorrhage, however slight, and passed no shreds of tissue.

Examination revealed on inspection an abdominal enlargement extending midway between the pubes and umbilicus, which felt boggy; above this, was a soft fluctuating mass like a cyst, which by pressure in the median line, could readily be moved either to the right or left, and through such movement, became quite tense. There was also discovered what was diagnosed a fetus, but it could not be determined whether within the uterus or not. No fetal heart sounds were heard. A vaginal examination disclosed a soft, patulous cervix. After repeated examinations, covering a period of four weeks, and the state of affairs having a marked depressing influence upon the patient, and being positive the fetus was dead, wherever it was, I decided upon removal.

On May 27th, under ether administered by Dr. John F. Peattie, I first carefully inspected the uterus, dilated, found a depth of four and a half inches, but empty.

Next an abdominal incision was made in the median line, three inches in length, beginning one inch below the umbilicus, and on entering the abdominal cavity placental tissue protruded, which was found entirely attached to the omentum, while at the same time a membranous, rather tense sac, bulged out. The placenta was carefully separated from the omentum, and the omentum only; suddenly the sac ruptured and with the gushing of the liquor amnii, the hands and arms of a fetus presented. It was delivered, with the placenta in a few minutes. It proved a male of about five months, the cord was a half inch in diameter and twelve inches in length. Small amount of meconium adhered to anus. No hemorrhage followed. The closest inspection failed to reveal any sign of a ruptured tube, or a ruptured uterus. Both were intact. The incision was closed in the usual manner. The patient made an uneventful recovery.

NEVADA STATE MEDICAL ASSOCIATION: MINUTES OF THE ANNUAL SESSION.

Reno, Nevada, Oct. 13, 1914.

The eleventh annual meeting of the Nevada State Medical Association was called to order in the Commercial Club Rooms at 10 a. m. by Dr. A. P. Lewis, president. Invocation by the Rev. Samuel Unsworth.

The minutes of last regular and one special meeting were read and approved.

The president, Dr. Lewis, deferred his address, but asked that the following propositions be taken up for consideration:

(1) That a new official organ be selected, or the advisability of making a change.

(2) The increasing of the dues to six dollars a year.

(3) The appointment of a committee to act with the secretary on the selection and preparation of material for our Medical Journal.

(4) That we ask the A. M. A. to elect all state secretaries as members ex-officio to the house of delegates.

(5) That we take up and reach a conclusion whether or no we adopt Medical Defense.

(6) The question of holding our 1915 meeting during the week before the A. M. A. meeting.

(7) That a committee be appointed to represent Nevada in the work being carried on by the American Association for the Prevention of Cancer.

The secretary reported as follows:

No. of physicians in the state	about 150
No. of physicians members of state association (4 honorary)	63
No. of physicians died	2
No. of physicians moving from the state	11
No. of physicians dropped for non-payment of dues	27
No. of physicians new members	11

CASH ACCOUNT.

Cash on hand Oct. 14, '13		$ 47.45
Nov. 14	Riverside Hotel, ad on program.	10.00
Nov. 18	J. T. Reese, dues '13	5.00
Nov. 29	R. R. Craig, dues	5.00
Nov. 29	Nye Co., dues '13	6.00
Dec. 10	Nye Co., dues	9.00
Dec. 12	A. J. Hood, dues '13	5.00
Dec. 17	G. L. Servoss	5.00
Dec. 22	A. J. Hood	5.00
Dec. 24	C. W. West, dues '13	5.00
1914.		
Jan. 7	Nye Co	6.00
Jan. 12	F. M. West	5.00
Jan. 13	C. W. West	5.00
Jan. 19	G. L. Balanger	5.00
Feb. 13	E. B. Todd	5.00
Mar. 16	Nye Co	9.00
Mar. 20	P. J. Mangan	5.00
Apr. 13	Esmarelda Co	5.00
Apr. 15	A. C. Olmstead	5.00
Apr. 16	J. A. Russell	5.00
May 12	G. U. Hall	5.00
May 27	H. G. Knapp	5.00
June 26	A. D. Field	5.00
June 27	C. E. Swezey	5.00
Sept. 14	H. A. Paradis	5.00
Sept. 28	F. C. Pache	5.00
Oct. 13	Due from Washoe Co. Society	97.00
		$288.45

EXPENSE ACCOUNT.

1913.			
Nov. 21	Carbon 25c, stamps $2.	Ck No. 36	$ 2.25
Dec. 2	Letterheads Sutherl'd..	Ck No. 37	5.00
Dec. 12	Servoss, Nevada Med..	Ck No. 38	7.00
Dec. 22	Samuels, Ex. P. G. programs	Ck No. 39	.65
1914.			
Jan. 12	Stamps $2; April 1, stamps $2	Ck No. 40	4.00
Apr. 27	Green S. & Lake, envelopes	Ck No. 41	4.50
June 26	Nevada Med.	Ck No. 42	47.15
July 29	Stamps	Ck No. 43	2.00
Aug. 29	Carbon copy 25c; Sept. 16 stamps, $5.....	Ck No. 44	5.25
Sept. 29	G. S. & Lake, pgms..	Ck No. 45	12.50
Oct. 6	Telegram, 75c; St. Louis Button Co $18.50	Ck No. 46	19.25
			$109.55

Oct. 13 Bal. cash on hand.....$178.90

During the year I have written 600 letters and sent out 450 circular letters, also 300 programs.

The program was carried out as arranged, with the exception of Drs. McCleave and Servoss, who were unable to appear on account of illness; Drs. Willey, Maclean, Bergstein and Hartzell were not present when their papers were due.

The "special lecture" Tuesday night was of especially interest and was well attended. (Dr. John Zeig.)

Almost every member present said our program was the best we have had.

Tuesday noon we lunched with Washoe County Society. Wednesday P. M. Eli Lilly & Co.'s representative, Mr. Warren, invited the association and the Dentists, Pharmacists and their friends to the Grand Theatre and showed how pharmaceuticals are prepared.

Wednesday evening we dined and danced at the Riverside.

Thursday noon we lunched with Mr. Slater, at the Nevada Packing Co.'s plant, inspected the plant and had a thoroughly good time for a couple of hours. Dr. Webster showed some very interesting specimens.

Thursday night most of the members and visitors attended the theatre in a body.

Dr. Power's paper on Ab-Articular Gout was exceptionally good.

One "extra" on the program, that was especially interesting, was Dr. Ferrell's report of a case of human anthrax.

The election of officers resulted in the selection of—

Dr. P. J. Mangan, Winnemucca, President.
Dr. J. C. Ferrell, Fallon, 1st Vice-President.
Dr. A. J. Hood, Elko, 2nd Vice-President.
Dr. M. A. Robison, Reno, Secretary-Treasurer.
Dr. R. St. Clair, Reno, Trustee, 3 years.
Dr. M. R. Walker, Reno, Delegate A. M. A.
Dr. A. P. Lewis, Reno, Alternate.

The president was directed to appoint a committee of three to pass on all papers presented to the secretary for publication in our official journal.

Dr. J. L. Robinson was selected to represent our association on the A. M. A. Committee for the Conservation of Vision.

The following resolution was adopted:

To the House of Delegates of the A. M. A.:

Whereas, The Secretary of the Constituent Association is, by reason of his official position, most familiar with the needs of the profession in the various states; now therefore, be it

Resolved, That the Nevada State Medical Association in convention assembled, petition the House of the A. M. A. to so amend the Constitution and By-Laws as to make the secretary of each Constituent State a member of the House of Delegates, ex-officio.

Wednesday noon Dr. Gibson took the members to the County Hospital and exhibited a very unusual case of leprosy.

A letter was read from Dr. Nesmith, asking that action be taken toward securing compensation to the profession attending members of the industrial compensation act.

On motion of Dr. Ferrell it was referred to the Judiciary Committee.

On motion of Dr. Samuels, the Judicial Committee were instructed to act with the County Societies, especially with the Legislative Committee of Washoe County Society, to prepare such bills for the next legislature as may seem most needed; but especially for the above condition, also for providing compensation to the Health Officers and Vital Statistics reports in the small cities and country places.

On motion of Dr. Samuels that The California State Journal of Medicine be adopted as our Official Organ, after much discussion it was carried by a vote of 17 yeas, 2 noes.

The increasing of the dues to $6.00 per year was left with the Trustees and Judicial Committee, but ordered if they decide on Medical Defense.

The president was directed to appoint a committee of three to act with the secretary as an Editorial Committee.

The matter of Medical Defense was referred to the Judiciary and Trustees, and if they find it feasible, to put it in force January 1, 1915, at the same time raising the annual dues to $6.00 per year, $1 of which will go into the Medical Defense Fund, and $1 to the California State Medical Journal, so long as they act as our official journal.

The president was instructed to appoint a committee of three to serve as members of the American Association for the Prevention of Cancer.

The secretary explained his reasons for asking that the 1915 meeting be held just before the A. M. A. meeting in San Francisco, and it was decided to leave the matter in the hands of the secretary and council, with the understanding that they make such arrangements as they find will best suit.

The proposed amendments to the Constitution and By-Laws of the A. M. A. were referred to the Judiciary Committee, they to report to delegate and A. M. A., also the matter relative to hygiene and public health, as referred to on page 50 in Proceedings of House of Delegates, 1914.

A vote of thanks was extended to Washoe County Medical Society for their entertainment at lunch; to Mr. Slater for his very bountiful lunch at the Nevada Packing plant; Dr. Gibson for courtesies extended the members; to Mr. Warren for his "movie" show; to the Commercial Club for the use of their rooms.

The secretary acknowledged the great assistance rendered by Drs. Huffaker and Samuels.

Words almost fail to express our appreciation of the great good and pleasure we derived from having our guests from San Francisco.

Number of doctors in attendance, 48; other professional men, 14; and many nurses, dentists and pharmacists, attorneys, ministers and teachers.

Rev. Samuel Unsworth, Mr. Alcaitoir (U. S. Weather Bureau), Prof. Fransden, Mr. Benjamin, Drs. Mack, Williams, Boland, Zeig, San Francisco; Pickard, Mangan, Hood, Hartzell, Kistler, Mooser, Ferrell, Maloney, Ahlers, Samuels, Boyd, Ely, Alderson, Brown, Ostroff, Lewis, Huffaker, Wilcox, Robison, Gibson, Cunningham, Pickard, Cunningham, Power, Shaller, Gregory, Edwards, Asher, Turner, Morrison, Servoss, Nichols, Rothganger, Johnstone, Mangan, McKee, Robinson, Lewis, Knapp, Walker, Kitchen, St. Clair, Martin, J. B. Harris and Gardner.

NEVADA STATE MEDICAL ASSOCIATION.

M. A. ROBISON, SECRETARY-TREASURER, RENO.

Officers and Committees for 1915:

President, P. J. Mangan, Winnemucca; Vice-President, J. C. Ferrell, Fallon; Second Vice-President, Arthur J. Hood, Elko; Secretary-Treasurer, M. A. Robison, Reno; Trustees—1 year, C. E. Secor, Tuscarora; 2 years, C. W. West, Elko; 3 years, R. St. Clair, Reno.

Committees:

Membership—P. J. Mangan, J. C. Ferrell, M. A. Robison.

Judicial—J. E. Pickard, F. M. Nesmith, C. E. Earley.

Scientific Work and Program—B. F. Cunningham, R. St. Clair, W. L. Samuels.

Necrology—H. Ostroff, F. M. Wast, E. T. Krebs.

Entertainment—W. L. Samuels, J. A. Asher, R. K. Hartzell.

Delegate to A. M. A.—M. R. Walker; Alternate, A. P. Lewis.

Public Health—M. R. Walker, F. F. Owens, J. L. Robinson.

State Organizer—H. A. Brown.

Council—A. C. Olmstead, J. A. Russell, D. A. Turner, C. E. Bulette, G. M. Gardner, F. C. Pache, A. McIntyre, G. L. Belanger, C. E. Swezey.

Dr. H. A. Brown is off for three weeks in New Orleans, El Paso and Los Angeles.

J. T. Reese has located at McSermott.

Dr. Morrison has returned from a vacation in California towns.

Dr. McKenzie went with the Shriners to Tonopah, and spent the week visiting there and in Goldfield.

Dr. Ahlers has opened offices in the Washoe Bank Building, Reno.

Dr. Hawkins is building a hospital at Gardnerville.

Dr. Walker spent a short vacation in San Francisco.

BOOK REVIEWS

The Question of Alcohol. By Edward Huntington Williams, M. D., formerly Associate Professor of Pathology, State University of Iowa, and assistant physician in the New York State Hospital Service. The Goodhue Company, Publishers, 120 West 32nd St., New York. Price, cloth, 75c.

This book is of no value as a medical book and would be better if used as an anti-prohibition campaign argument. We fail to see any excuse for its publication. R. E. B.

The Practice of Surgery. By James G. Mumford, M. D. 4to. Cloth. Pp. 1032. Illustrated. 2d Edition. 1914. W. B. Saunders Co., Philadelphia and London, Publishers.

The new edition has been increased by 17 pages. Some of the chapters, that on shock for instance, have been modified; others, notably the one on abdominal ptosis, have been amplified and practically rewritten. The illustrations remain unchanged. The book is entertaining and lively, the descriptions sharp and vivid; too much so if anything. One often has the impression that the author goes out of the way of plain narration to force a point of style. A little too much Boston. There are a number of drier books on surgery that are more useful. L. E.

Blood Pressure in Medicine and Surgery. A Guide for Students and Practitioners. By Edward H. Goodman, M. D., Associate in Medicine in the University of Pennsylvania. 12mo, 226 pages, illustrated. Cloth, $1.50, net. Lea & Febiger, Publishers, Philadelphia and New York. 1914.

Goodman's book is somewhat of a disappointment to the critic. Although Goodman has compiled the literature on blood pressure fairly well, his own observations on the practical side are few and have not added much to the work of others. In his résumé he has accepted and approved all work and reports with equal consideration. We are still looking forward to a "masterpiece" on blood pressure. What has been done on this subject is put together by Goodman and his book would be worth reading for those who wish to read such a summary. R. B. T.

A Handbook of Psychology and Mental Disease for use in training schools for attendants and nurses and in medical classes, and as a ready reference for the practitioner. By C. B. Burr, M. D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases, etc., etc. Fourth edition, revised and enlarged with illustrations. Philadelphia, F. A. Davis Company, Publishers. 1914. Price $1.00.

While the usual small medical book is, as a rule, seldom worthy of much consideration, particularly when an entire specialty is included in its scope, an exception must be made in favor of this book of Doctor Burr's. Without analyzing its contents it will suffice to say that it bears the same relation to the large and more exhaustive works that the well-packed suitcase of the experienced traveler bears to the enormous trunks of a tourist on his first trip. Psychology and insanity are excellently analyzed, classified and discussed in the 200 pages of text in such a way as to appeal to the student and to the man who takes up the specialty of the care of the insane. The section on the treatment of insane patients is very valuable and conforms with the best modern and humane ideas.

G. H. T.

INFECTION AND RESISTANCE.

An exposition of the biological phenomena underlying the occurrence of infection and recovery of the animal body from infectious disease by Hans Zinsser, Professor of Bacteriology at the College of Physicians and Surgeons, Columbia University, New York, with a chapter on "Colloids and Colloidal Reaction" by Professor Stewart W. Young of Stanford University. New York. The Macmillan Co., 1914.

With his book on "Infection and Resistance," Zinsser fills a distinct want in American medical literature. There is no question that the modern physician must be well informed in this subject, if he wishes to deal intelligently with the many problems presented to him by infectious disease, and still there is not available in English a treatise dealing with these problems thoroughly and exhaustively from the point of view of one who has an intimate personal knowledge of the underlying facts. The author has succeeded in presenting a very difficult subject in an uncommonly clear and precise manner and it is to be hoped that many medical students for whom this book is primarily written will accept it as a reliable and at the same time most interesting guide in what at first glance must appear to their untrained eyes as a wilderness indeed. Moreover many physicians—clinicians as well as workers in bacteriology and allied fields—will be glad to consult the pages of Dr. Zinsser's excellent book on moot questions and will receive new insight into these fascinating problems and inspirations to new productive work along these lines. Professor Young's chapter on colloids is also most interesting and suggestive.

W. O.

General Medicine. Practical Medicine Series. 1914. Vol. VI. Edited by Frank Billings and J. H. Salisbury. Published by the Year Book Publishers. 1914. Price. $1.50.

These little books serve a very useful purpose in giving the busy practitioner a digest of articles which have appeared in medical journals for the preceding year. In two or three hours a man can get a good idea of the latest views in any one branch of medicine. About the only criticism we would suggest is that more care be taken in the choice of articles to be abstracted and that more of the foreign literature be used. For instance, after our most successful clinicians have for years been showing that the only way to break the vicious circle of dilatation of the stomach, self-starvation, etc., is by overfeeding, an article is abstracted—as advanced and up-to-date—in which the author advocates gastric lavage and starvation again. This research was based on six cases. A slight elevation of the lower border of her stomach may or may not be a comfort to the poor woman but we do not see how it can give her renewed strength to go back and stand behind a counter or teach school all day. Those who elect to teach their fellow practitioners should guard them from false or ignorant prophets.

The large proportion of this volume is made up of abstracts from the Journal of the American Medical Association, a magazine which has already been seen by most of the men who are sufficiently concerned with the state of their medical education to buy these books. Very few of us, however, know what we should about the best that is issuing from the laboratories and clinics of Europe.

W. C. A.

Serology of Nervous and Mental Diseases. By D. M. Kaplan, Director of Clinical and Research Laboratories, New York Neurological Institute. W. B. Saunders & Co., Philadelphia.

With the thoroughness and unbiased attitude of a true scientist, Kaplan has given to the profession a book of inestimable value, at this time. The subject is naturally divided into four parts. Part 1 gives in detail the general consideration of the spinal fluid. Here the author, because of his large experience, has been able to simplify the examination for proteid content of the spinal fluid by presenting a very simple method of his own, which the reviewer has used to a considerable extent. Kaplan's idea is to make the study of the spinal fluid so standardized that the general practitioner will look to the serologist for data which will be of inestimable value to him in diagnosis.

The Wassermann reaction and its various modifications are next taken up with the result that though he deprecates the use of methods which allow of "limits of errors," he states that "the chief function of the laboratory worker is not so much to detect every syphilitic, but to protect the non-luetic individual from a wrong diagnosis and useless treatment. He should consider himself, as expert, only when the number of positive reports on non-luetic sera approaches the zero mark and not when his results with positive material approach the 100 per cent. efficiency mark." I believe all clinicians should be wary of the "unerring" serologist.

Part 2 is an exposition of the serology of non-luetic nervous and mental diseases. As in Part 3 each disease is considered with especial reference to the cerebrospinal fluid findings and its serological formula. The author finds himself frequently called on to decide on the coexistence of tabes with other non-luetic diseases, e. g., multiple neuritis. The absence of a proper formula enables him to reach a decision which is usually finally substantiated.

Part 3 includes the serology of syphilitic nervous and mental diseases—a very important and well-presented section. Here the different luetic disorders of the brain and cord are taken up with differential diagnoses—a no mean feat for a serologist. Cases are followed to show the influence of therapy on the serological findings. Part 4 is a general consideration of the therapeutic use of salvarsan with many annotations from the author's personal experience with the drug.

The work as a whole finds a ready place with the neurologist and psychiatrist and should be a constant companion of the general practitioner, who will get much more out of his cases by a careful perusal of this book. Many excellent colored photographs adorn the work. An excellent bibliography, covering 37 pages, completes the volume.

J. M. WOLFSOHN.

SOCIETY REPORT

CALIFORNIA PEDIATRIC SOCIETY—NORTHERN BRANCH.

On October 6, 1914, a meeting for the organization of a pediatric society was held. At that time a northern branch was formed with the following officers: President, William B. Lewitt; Vice-President, Langley Porter; Secretary-Treasurer, William Palmer Lucas; Council, Adelaide Brown, one year; T. C. McCleave, two years, and H. H. Yerington, three years.

The Society has for its object the advancement of the study of infancy and childhood, and diseases as manifested at these ages. The number of members is not limited. Any registered physician in California may become a member, unless objected to by the Council, on application and payment of the membership dues. The membership will also include associate members, who will come under the same restriction. The entrance fee shall be $3.00 and the annual dues for this year $2.00, and hereafter the Council shall have power to change the amount of assessment from year to year.

At this first meeting a Constitution and By-Laws were adopted and it was decided to ask for the formation of a southern branch, which should have for its center Los Angeles.

The first meeting has been set for December 9th at 8:15 in the County Medical Library. The program will be as follows: Presidential Address by Dr. William B. Lewitt on the Scope and Work of the California Pediatric Society. The following papers will be read:

I. Some Sources of Error in the Diagnosis and Treatment of Lobar Pneumonia in Children. E. C. Fleischner.

II. Preliminary Report of the Morbidity of the Children's Clinic of the Associated Charities, which is under the Auspices of the Certified Milk and Baby Hygiene Committee of the Association of Collegiate Alumnae. F. M. Holsclaw and A. E. Rude.

III. The Dietetics of Constitutional Eczema. George D. Lyman.

It is hoped that anyone interested in child welfare problems will come to this meeting and join the Society. We will welcome all who are really interested in any phase of child welfare work.

The following physicians endorsed the organization of this Society:

Rachel L. Ash, Sanford Blum, Adelaide Brown, E. C. Fleischner, F. M. Holsclaw, William B. Lewitt, William Palmer Lucas, George D. Lyman, T. C. McCleave, Leo L. Meininger, Langley Porter, Dudley Smith, H. H. Yerington.

ORANGE COUNTY.

The regular monthly meeting of the Orange County Medical Society was held last evening in the sun parlor at the Orange County Hospital, with all the doctors of the county and their wives as guests of Dr. John Wehrly, secretary of the Society.

mobile trip was taken to the new county hospital, mobile trip was taken to he new county hospital, where the guests were shown the new buildings and expressed enthusiastically their appreciation of the up-to-date equipment, lighting and ventilating system, etc.

After return was made to the hospital, Dr. Wehrly gave a clinic for the physicians and the regular routine business was transacted.

Dr. Wehrly was host, also, for the tempting refreshments served the company at the close of the meeting, when a social hour was enjoyed.

Those present were Dr. and Mrs. C. D. Ball, Dr. and Mrs. John L. Dryer, Dr. and Mrs. J. I. Clark, Dr. and Mrs. G. H. Dobson, Dr. and Mrs. Utter, Dr. and Mrs. McKelop, Dr. and Mrs. Bryan, Dr. Ida Parker and Miss Scarritt, Dr. and Mrs. F. E. Wilson, Dr. and Mrs. Ward, Dr. and Mrs. Johnson, Dr. and Mrs. George Clark, Dr. and Mrs. H. M. Robertson, Dr. and Mrs. Harvey, Dr. and Mrs. Harry Zaiser, Dr. and Mrs. Janss, Dr. J. H. Domann, Dr. Violett, Dr. and Mrs. John Wehrly, Miss Katherine Rutherford, Miss Sturdevant, Miss Hazel Swall, Miss McAferty, Miss Treat, Miss Runnell and David Botroff.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of October the following meetings were held:

Medical Section, Tuesday, October 6th.

1. Demonstration of Case of Intrathoracic Dermoid Cyst (?). H. D'Arcy Power.
2. Nutritional Problems of the Newborn Infant (preliminary communication). W. P. Lucas. Discussed by S. Blum, H. H. Yerington and R. K. Smith.
3. High Caloric Feeding in Children with Typhoid Fever. H. H. Yerington. Discussed by W. P. Lucas and A. A. O'Neill.

Tuesday, October 13th.

(A joint meeting of the Bar Association of San Francisco and the San Francisco County Medical Society held in Kohler & Chase hall, and devoted to the discussion of the Medical Expert.)

1. The Expert Witness from the Standpoint of the Attorney. Oscar C. Mueller, Chairman of the Committee on Amendment of Laws, of the Los Angeles Bar Association.
2. The Status of the Medical Expert in American Jurisprudence. Andrew Stewart Lobingier, Chairman of the Committee on Laws Governing Expert Medical Testimony, Los Angeles.
3. Official Medical Experts. Wm. M. Cannon.
4. The Sociological Relationships of the Problem. R. S. Gray.

Surgical Section, Tuesday, October 20th.

1. Retrodisplacement of the Pregnant Uterus. L. I. Breitstein.
2. Gas Bacillus Infection. G. M. Barrett.
3. Crotalus Venom: Some Experiments with Antidotes. Saxton Pope.

Eye, Ear, Nose and Throat Section, Tuesday, October 27th.

1. Cases: (a) Polyp of Ear Protruding from the Auricle.
   (b) Case of Ozena of 15 yrs. standing; Treated with Vaccine. C. F. Welty.
2. (a) Case showing normal Drum and Hammer intact, but totally deaf after acute Mastoid Operation.
   (b) Acute Neuritis of the 8th, and possibly of the 7th, resulting from the administration of Salvarsan. H. B. Graham.
3. Paper: Optic Disks and Color Fields in Recognition of Syphilis of the Nervous System. Syphilis of the Third Generation. H. G. Thomas, Oakland. Discussed by P. Dolman, H. B. Graham, H. Barkan, and W. F. Blake.

SAN FRANCISCO POLYCLINIC SOCIETY.

San Francisco, Oct. 14, 1914.

Wednesday, October 7, 1914, at 8:30 p. m.:

1. Report of a case of Staphylococcus Albus Infection with Autopsy Findings. Dr. G. M. Barrett. Discussion by Dr. P. K. Brown and Dr. C. J. Teass.
2. Cases of Alveolar Infections with Reference to the Constitutional Manifestations. Dr. P. K. Brown. Discussion by the following dentists: Drs. Post, Ward, Day, Kelley, and Van Orden; and by the following members: Drs. Welty, Blum, Ryfkogel, Douglas, Montgomery, and Krotoszyner.

HARRY P. ROBARTS, Sec'y.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. J. D. Dameron, Friday evening, September 25th. The following members were present: Drs. R. B. Knight, G. W. Walker, J. D. Dameron, F. P. Clark, H. E. Sanderson, J. T. Davison, C. R. Harry, W. J. Backus, W. F. Priestly, R. D. Cashatt, C. F. English, Mary Taylor, L. Dozier, Dewey R. Powell and R. T. McGurk.

The paper of the evening, "Thyroid and Its Relationship to Systemic Infection," was read by Dr. J. D. Dameron. It was an excellent resume of the current information at hand regarding the thyroid gland and its diseases, the doctor giving his own ideas regarding its relation to systemic infection in a very clear and well written paper. Dr. Knight was called upon to open the discussion and he in turn was followed by each of the members present, Dr. Dameron closing the discussion.

The meeting was then adjourned and the members invited to partake of refreshments.

R. T. McGURK, Sec'y.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

Since publication of New and Nonofficial Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with New and Nonofficial Remedies.

HYPODERMIC TABLETS OF EMETINE HYDROCHLORIDE, Mulford.—Each tablet contains emetine hydrochloride, 0.016 gm. H. K. Mulford Co., Philadelphia (Jour. A. M. A., Oct. 3, 1914, p. 1204).

ACNE VACCINE.—Marketed in boxes of 4 syringes containing 25, 50, 100 and 200 million killed bacilli. Also in boxes of 2 syringes containing 50 and 200 million killed bacilli; boxes of 6 ampoules containing 10, 25, 50, 100, 200 and 500 million killed bacilli, with a syringe; and boxes of 2 ampoules containing 50 and 200 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

BACILLUS COLI COMMUNIS VACCINE.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also boxes of 2 syringes containing 100 and 500 million killed bacilli and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

BACILLUS PERTUSSIS VACCINE.—Marketed in boxes of 4 syringes containing 25, 50, 100 and 200 million killed bacilli. Also boxes of 2 syringes containing 50 and 200 million killed bacilli; boxes of 6 ampoules containing 25, 50, 100, 200, 300 and 500 million killed bacilli, with a syringe; and boxes of 2 ampoules containing 50 and 200 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

PYOCYANEUS VACCINE.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also in boxes of 2 syringes containing 100 and 500 million killed bacilli. E. R. Squibb and Sons, New York.

GONOCOCCUS VACCINE.—Marketed in boxes of 4 syringes containing 100, 200, and 500 million killed gonococci; boxes of 6 ampoules containing 50, 100, 150, 350, 500 and 1,000 million gonococci, with a syringe; and boxes of 2 ampoules containing 100 and 500 million killed gonococci, with a syringe. E. R. Squibb and Sons, New York (Jour. A. M. A., Oct. 3, 1914, p. 1204).

MENINGOCOCCUS VACCINE, IMMUNIZING.—Marketed in boxes of 3 syringes containing 100, 500 and 1,000 million killed meningococci. E. R. Squibb and Sons, New York.

MENINGOCOCCUS VACCINE, CURATIVE.—Marketed in boxes of 4 syringes containing 100, 200, 400 and 500 million killed meningococci. Also in boxes of 2 syringes containing 100 and 500 million killed meningococci; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed meningococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed meningococci, with a syringe. E. R. Squibb and Sons, New York.

PNEUMOCOCCUS VACCINE.—Marketed in boxes of 4 syringes containing respectively 100, 200, 400 and 500 million killed pneumococci; boxes of 2 syringes containing respectively 100 and 500 million killed pneumococci; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed pneumococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed pneumococci, with a syringe. E. R. Squibb and Sons, New York.

STAPHYLO-ACNE VACCINE.—Marketed in boxes of 4 syringes containing 100 million killed staphylococci and 25 million killed acne bacilli, 200 million killed staphylococci and 50 million acne bacilli, 400 million killed staphylococci and 100 million killed acne bacilli, and 500 million killed staphylococci and 200 million killed acne bacilli; boxes of 2 syringes containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli; boxes of 2 ampoules containing 100 million killed staphylococci and 50 million killed acne bacilli and 500 million killed staphylococci and 200 million killed acne bacilli, with a syringe. E. R. Squibb and Sons, New York.

STAPHYLOCOCCUS VACCINE.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed staphylococci; also in boxes of 2 syringes containing 100 and 500 million killed staphylococci; boxes of 6 ampoules containing 100, 250, 500, 500, 1,000 and 2,000 million killed staphylococci, with a syringe, and boxes of 2 ampoules containing 100 and 500 million killed staphylococci, with a syringe. E. R. Squibb and Sons, New York.

STREPTOCOCCUS VACCINE.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed streptococci; also in boxes of 2 syringes containing 100 and 500 million killed streptococci; boxes of 2 ampoules containing 100 and 500 million killed streptococci, with a syringe. E. R. Squibb and Sons, New York.

TYPHOID VACCINE, CURATIVE.—Marketed in boxes of 4 syringes containing 100, 200, 500 and 1,000 million killed bacilli. Also in boxes of 2 syringes containing 100 and 500 million killed bacilli; boxes of 6 ampoules containing 100, 100, 500, 500, 1,000 and 1,000 million killed bacilli, with a syringe and boxes of 2 ampoules containing 100 and 500 million killed bacilli, with a syringe. E. R. Squibb and Sons, New York.

TYPHOID VACCINE, IMMUNIZING.—Marketed in boxes of 3 syringes containing 500, 1,000 and 1,000 million killed bacilli. E. R. Squibb and Sons, New York.

SMALLPOX (VARIOLA) VACCINE (GLYCERINATED).—Each dose in separate aseptic sealed glass tube, with bulb and needles. Boxes of 5 and boxes of 10 tubes. E. R. Squibb and Sons, New York.

DIPHTHERIA ANTITOXIN.—Curative doses, marketed in syringes containing 2,000, 3,000, 4,000, 5,000, 7,500 and 10,000 units. E. R. Squibb and Sons, New York.

ANTIDYSENTERIC SERUM.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

ANTIPNEUMOCOCCIC SERUM, POLYVA-

LENT.—Marketed in syringes containing 20 Cc. Also marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

ANTISTREPTOCOCCIC SERUM, POLYVALENT.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

ANTISTREPTOCOCCIC SERUM, SCARLATINAL, POLYVALENT.—Marketed in vials containing 50 Cc. H. K. Mulford Co., Philadelphia, Pa.

TYPHO-SEROBACTERIN, MULFORD, IMMUNIZING.—Each package contains 3 syringes of Typho-Serobacterin graduated as follows: First dose, 1,000 million killed sensitized typhoid bacilli; second dose, 2,000 million killed sensitized typhoid bacilli; third dose, 2,000 million killed sensitized typhoid bacilli. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Oct. 10, 1914, p. 1296).

CYMARIN.—A neutral, non-glycosidal substance obtained from Apocynum cannabinum and Apocynum androsemifolium. Cymarin resembles amorphous strophanthin in its actions and is about equal to it in activity. It is more active when injected intravenously or intramuscularly than when given orally. Its uses are much like those of digitalis, but it is best suited in the form of Cymarin Tablets, 1/200 Gr. and Ampoules Cymarin Solution containing 1/60 Gr. cymarin. The Bayer Co., New York (Jour. A. M. A., Oct. 17, 1914, p. 1393).

MALTINE MALT SOUP EXTRACT.—Maltine containing potassium carbonate, 1.1 Gm. to each 100 Gm. and alcohol, 3.88 per cent. Maltine Co., Brooklyn, N. Y. (Jour. A. M. A., Oct. 24, 1914, p. 1479).

ACNE VACCINE.—Marketed in packages of six syringes each containing 12 million bacteria. Greeley Laboratories, Inc., Boston.

ACNE VACCINE.—Marketed in packages of four syringes containing, respectively, 5, 10, 20, and 40 million killed acne bacilli. Schieffelin and Co., New York.

COLON VACCINE.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

COLON VACCINE.—Marketed in packages of two vials each containing, respectively, 50, 100, 200, and 400 million killed bacteria. Schieffelin and Co., New York.

PYOCYANEUS VACCINE.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

PYOCYANO-BACTERIN.—Marketed in packages of four syringes containing, respectively, 50, 100, 200 and 400 million killed bacteria. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Oct. 24, 1914, p. 1479).

ANTIMENINGOCOCCUS SERUM (ANTIMENINGITIS SERUM).—Marketed in one aseptic glass cylinder containing 30 Cc. with special sterile needle and stylet. Also in one 20 Cc. vial. Schieffelin and Co., New York.

GONOCOCCUS VACCINE.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

GONOCOCCUS VACCINE, POLYVALENT.—Marketed in separate syringe packages containing, respectively, 50, 100, 200, 400 and 1,200 million killed bacteria. Schieffelin and Co., New York.

PNEUMOCOCCUS VACCINE.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

STAPHYLOCOCCUS ALBUS VACCINE.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

STAPHYLOCOCCUS AUREUS VACCINE.—Marketed in packages of six syringes each containing 1,000 million bacteria. Greeley Laboratories, Inc., Boston.

STREPTO-BACTERIN (HUMAN) POLYVALENT.—Marketed in packages of six ampoules each containing 100 million killed bacteria; also in packages of six ampoules each containing 200 million killed bacteria. The Abbott Alkaloidal Co., Chicago.

STREPTOCOCCUS VACCINE.—Marketed in packages of six syringes each containing 500 million bacteria. Greeley Laboratories, Inc., Boston.

SCARLET FEVER TREATMENT.—Marketed in packages of four vials containing respectively 50, 100, 200 and 400 million killed bacteria.

TYPHOID BACILLUS VACCINE.—Marketed in packages of six syringes, each containing 1,000 million bacteria; also in packages of six syringes containing respectively 100, 200, 400, 600, 800 and 1,000 million bacteria. Greeley Laboratories, Inc., Boston (Jour. A. M. A., Oct. 31, 1914, p. 1577).

SEROBACTERINS.—While objection may be made to the sensitized living bacteria used by Besredka because there is always an uncertainty as to the action of living bacteria in the animal body, such danger cannot be attributed to the "serobacterins" because they contain dead bacteria, and so far as known, can do no more harm than other dead bacteria—in fact it is claimed that they are preferable to other vaccines because the toxic products of the bacteria, other than the immunizing properties, have been largely removed. It must be said, however, that these preparations are still in the experimental stage. In great part, careful clinical observations will decide that the serobacterins are really superior to ordinary vaccines (Jour. A. M. A., Oct. 3, 1914, p. 1223).

LACTIC ACID FERMENTS.—There is a large amount of literature to the effect that the Bacillus bulgaricus hinders putrefaction in the intestinal canal. While there may be some question as to a greater success in securing the implantation of this bacillus by administering it in "liquid cultures" the report of the Council on Pharmacy and Chemistry shows that such a culture is likely to reach the consumer in a more active state than one in the form of tablets (Jour. A. M. A., Oct. 3, 1914, p. 1223).

ACTION OF SODIUM CACODYLATE.—Containing its arsenic in organic combination and in the pentavalent state, which becomes therapeutically active only as it is reduced to the trivalent inorganic state, sodium cacodylate is so slightly toxic that therapeutic doses do not give rise to toxic symptoms. There is nothing in the literature to show that sodium cacodylate has a special action on the eye and blindness from its administration need not be feared (Jour. A. M. A., Oct. 3, 1914, p. 1223).

USE OF PARAFFIN OIL.—While it is recognized that cancer may be caused by chronic irritation, the paraffin oil used medicinally is bland and non-irritating and there is no reason to suppose that its continued use would cause cancer. A good quality of oil may be obtained by prescribing Paraffinum Liquidum or Petrolatum Liquidum Grave (Jour. A. M. A., Oct. 17, 1914, p. 1411).

GLYCOTHYMOLINE REFUSED RECOGNITION.—A report of the Council on Pharmacy and Chemistry cites Glycothymoline as a typical illustration of a "patent medicine" advertised to the public through the doctor. Different formulas have been ascribed to Glycothymoline by its promoters from time to time—but whatever the exact composition of this secret nostrum may be, it has been definitely shown that it is but a weak antiseptic solution. Nevertheless, the advertising circulars recommend the use of Glycothymoline in such serious conditions as diphtheria and ophthalmia of the newborn. Glycothymoline is in conflict with Rules 1 and 4 of the Council on Pharmacy and Chemistry, because of its indefinite composition and the method of advertising it to the public. It is in conflict with Rules 10, 6 and 8, in

that it is an unscientific, shot-gun mixture sold under unwarranted therapeutic claims and under a misleading name (Jour. A. M. A., Oct. 10, 1914, p. 1313).

PHENOLAX WAFERS.—These are tablets said to contain phenolphthalein 1 gr., "aromatics" and sugar enough to make five grains. It is a question what purpose the "aromatics" and sugar serve, perhaps these are to mislead the unthinking to believe that this combination has some mysterious value over phenolphthalein itself (Jour. A. M. A., Oct. 17, 1914, p. 1410).

PAPINE (Battle and Co.).—This is a simple aqueous alcoholic solution of morphine, 1 grain to each ounce. It is exploited under the utterly unwarranted claim that it does not nauseate, constipate nor create a habit (Jour. A. M. A., Oct. 17, 1914, p. 1411).

CELERINA AND ALETRIS CORDIAL (Rio Chemical Co.).—Celerina is a shot-gun mixture said to contain, in addition to 42 per cent. of alcohol, kola, viburnum, celery, cypripedium, xanthoxylum and aromatics. Aletris Cordial is said to contain 28 per cent. alcohol (more than is found in wine) besides three obsolete and valueless drugs, aletris, helonias and scrophularia. Whatever virtue there is in Celerina and Aletris Cordial is derived from the alcohol (Jour. A. M. A., Oct. 17, 1914, p. 1411).

GINSENG.—Despite the fact that the peculiar man-shaped root of ginseng has no medicinal value so far as science can determine, the Koreans for decades paid their tribute to China in ginseng. In China it is reported as a cure for all ills that human flesh is heir to and has a special reputation as an aphrodisiac. Perhaps there is no better illustration of the virtues of aphrodisiacs in general than the fact that the Chinese are quite sure of the marvelous efficacy of ginseng though no evidence of its virtues can be obtained in the West (Jour. A. M. A., Oct. 24, 1914, p. 1486).

THE EXHIBITS WILL BE ON HAND.

Costly exhibits from Europe reach San Francisco.

Four car loads from Rotterdam.

Consignments from England, Ireland, France, Luxemburg.

Five carloads of social economy exhibits include those made under the supervision of Dr. Philip Rauer of Stuttgart, Germany.

No foreign nation has withdrawn from its participation.

Total foreign funds show increase of more than one million dollars since the outbreak of the war.

Hundreds of tons of Exhibits en route to San Francisco from Japan, China and other countries.

On September 24th Secretary of State William Jennings Bryan issued a formal announcement to the effect that no foreign country had withdrawn from its participation in the Panama-Pacific International Exposition.

Since Mr. Bryan's announcement many large consignments of costly exhibits from Europe and other countries have reached San Francisco and a number of chartered steamers will soon leave with great loads of exhibits for this city.

ARMY MEDICAL CORPS EXAMINATIONS.

The Surgeon-General of the Army announces that preliminary examinations for appointment of First Lieutenants in the Army Medical Corps will be held on January 11, 1915, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations, applications must be completed and in possession of the Adjutant-General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present twenty vacancies in the Medical Corps of the Army.

CALIFORNIA STATE BOARD OF HEALTH CIRCULAR ON PELLAGRA.

To City and County Health Officers:

There has been a marked increase, recently, in the number of deaths from pellagra in California, although very few cases of this disease have been reported by health officers.

As you are aware, the cause of this disease is unknown, although it is generally supposed that it is due to the use of spoiled corn, or a fungus upon the corn.

I have to ask that you call the attention of the physicians in your territory to the apparent increase in the number of cases of this disease, and that you ask them to be very alert in the detection of such cases, being careful to gather all possible data concerning the etiology of all cases that may come under their observation.

I shall be pleased to receive a report from you as soon as possible, stating whether there are any cases in your territory at the present time, or if any have appeared during the past few years.

Respectfully,
DONALD H. CURRIE,
Secretary.

"NOTHING NEW UNDER THE SUN."

To the State Journal of Medicine: It may be of interest to Dr. L. M. Ryan, of Banning, Calif., to learn that the rapid and convenient method of counter-staining for tubercle bacilli with a saturated alcoholic solution of methylene blue, regarded as an original idea with him, has been known and used by myself for at least twenty years. So long in fact, that I have forgotten the name of the technologist who first suggested this simplification and from whom I gladly adopted the method of a means of eliminating the decolorization-method of the Ziehl-Neelsen and Gabbett processes with the dilute acid-solutions.

Yours very truly,
JOHN C. SPENCER.

SOME OF OUR DISEASES.

Editor of State Journal:

I do not know whether you are in the habit of replying to letters from physicians' wives, but as I am deeply interested in my husband's work and a lover of fair play in all things, I hope you will show me the courtesy to reply. My husband has said, upon inquiry from me, that these things can not be helped, consequently they must be endured, but if that be true, what is the use of our societies as far as protection is concerned?

I know, from reading the different journals that come to us, that neither the profession as a whole nor the medical societies stand for the things that

I am about to relate, why, then, do they permit men to do them and still be members of the county, state and national societies? Not consistent, is it?

Why do the A. M. A., the state and county societies, stand as they do regarding fee splitting and allow their members to do it? Is it ethics? Of course, the societies would reply, we do not allow it, they do it without our knowledge. Individually, members in the society know it is going on, but do not wish the notoriety involved in bringing it up. That is not the proper attitude.

A prominent physician and surgeon (?) in our town offered to give my husband 50 per cent. of all operative work brought to him. Another physician who takes his work there and receives his portion (so he says), approached a D. O. here and said he was foolish to take his work to * * * when he could get half here. "Of course," he added, "I do not go much on them over there, but it's the money we are after." Now, is it not a shame that these things are done by members of medical societies, and go out from the profession and are discussed by the laity? Is it any wonder that the people are clamoring for Christian Science, drugless healing and many other things that are less expensive and many times more satisfactory?

Do the honest, conscientious men in the profession have to submit lest they are accused of having personal reasons for standing for what is right and honorable?

Another physician here approached my husband, saying, of a certain prominent man in * * *, "He is no hog, he is fair."

Another surgeon from * * * comes down here and has done abdominal operations in private homes, splitting the fee with the Dr., so rumor has it.

Another physician's wife says: "No, my husband does not split fees, but when he operates for another medical man they divide up on the case." Ethics, perhaps.

Now, in regard to abortions. When one physician has been asked to "help a woman out of trouble," and he refuses, but still keeps the case in mind and in a few days finds the woman is ill, another physician in attendance, a few days after the husband comes to the first physician, saving that everything is all right. "it was only a little cold," what can be done? Her intimate friend also returned and said she had succeeded in getting it done by one of our six regular physicians.

When we know of several such cases, can we doubt but that some one performs abortions here in our little town of four thousand?

Now, * * * County Society has a committee who secretly and quietly investigate such rumors without divulging the informant's name. Does the state do the same? If not, what can be done?

Another question: Will the medical societies sanction their members going from house to house making medical examinations for lodge insurance for one dollar, when it is supposed to be an office call? Or for doing contract work, such as a monthly salary and the fees which are about half of the regular ones, going to the union or company or whatever it is—not the insurance companies. It seems that the medical men have been forced to do their work. Why? Because they will not stand together and some one will do it, so all may as well have their share. For the same reason many otherwise conscientious men split fees, because some will do it, and if some, why not all? The laity does not understand this to be morally wrong. They should be educated. A patient goes to a surgeon of some reputation and training. His price for the operation seems large. She reports to her family physician, oftentimes he knows of a surgeon (?) who hasn't the reputation or name, but his work is just as good. Why not take his card and see him? His prices are reasonable (almost a bargain). The patient follows the family physician's advice. Why, yes, he could do it for seventy-five dollars—about one-half what the surgeon asked. After all is over the would-be surgeon (?) divides up with the family doctor, who also gets the assistant's fee. Easy money. And why those operations very often seem to be as successful as those performed by men who have given years of study and who have had years of experience, I can not understand, unless there was no indication for an operation to begin with.

Now, all these things are happening here and the two or three honest men simply do their work and go on quietly, evidently unable to prevent them.

I am asking for a private answer. If it should be answered through the Journal, kindly withhold my name and name of the town.

Trusting that I have written in a worthy cause and that you will consider it, I am

Very truly yours,
MRS. J. W.

The Answer.

Dear Mrs. * * *

Your letter of the 27th inst. reaches me this morning, and I have read it over very carefully.

Possibly you may not realize it, but you have picked out three or four of the largest problems in medical sociology and have asked me to solve them for you offhanded!

For fifteen years I have talked, written and published matter relating to these abuses in our profession, but they continue to exist and they always will, for one reason, namely: Human nature is human nature. Honesty is merely a relative term. There is a certain amount of dishonesty in almost everyone, and you find the desire to get money or to get something in ways that are not strictly honest, in every class of society, from the tramp who steals a loaf of bread to the trust magnate who buys a legislature and steals other people's property to the extent of hundreds of millions. This being the case, I think you will see that, until human nature changes, there will always be physicians who will split fees and who will do all kinds of not strictly proper work in order to get money.

Your little community is not at all different from any other community, in that there are some physicians who live there who do abortions. Abortions have been performed since a time when the "memory of men runneth not to the contrary." They have probably been performed since the first woman became pregnant and desired not to have children, and they will be performed so long as women and men wish to avoid the responsibility of parenthood.

Contract practice, lodge work and similar things are evils within the medical profession, for which medical men are themselves alone responsible, but like many other things, they are evil in their abuses, while in their legitimate use, they are not necessarily wrong.

You asked why medical societies do not control these things, and I can only reply to you by saying that all medical societies officially condemn these things, but it is almost never possible to prove an accusation of guilt, because one man affirms, and another denies, and one man's word is as good as another's. It is almost never possible to secure absolute evidence.

I will take much pleasure in publishing your letter to me and also this answer to you, and I certainly will not make use of your name or the name of the city in which you live. If I can be of any assistance or encouragement to you in any way, please do not hesitate to call upon me.

Respectfully,
PHILIP MILLS JONES,
Secretary.

BOARD OF MEDICAL EXAMINERS, CALIFORNIA.

The following is a full report of applicants coming before the Board of Medical Examiners since January, 1914, session:

Passed Written Examination for Physicians and Surgeons.

Calif. Eclec. Med. Coll., Calif.; (5, 26, 1914), 82 6-9, 78 8-9, 78 2-9, 76 7-9, 75.
Coll. of Med. Evangelists, Calif.; (6, 17, 1914), 89, 88 7-9, 78 3-9.
Coll. of Phys. & Surgs., Calif.; (6, 4, 1914), 77.
Hahnemann Med. Coll. of the Pacific, Calif.; (4, 25, 1914), 86 6-9; (4, 24, 1913), 80 5-9; (4, 25, 1914), 75 6-9, 75 4-9.
Los Angeles Coll. of Osteopathy, Calif.; (6, 7, 1913), 81.1, 75 8-9.
Stanford, Leland, Jr., Univ., Calif.; (5, 18, 1914), 90 1-9, 86 1-9, 85 4-9, 84 6-9, 82 6-9, 82 1-9, 80 5-9, 79 1-9, 76 3-9.
University of Calif., Med. Dept., Calif.; (5, 13, 1914), 90 1-9, 88 6-9, 88 6-9, 88 5-9, 88 2-9, 87 8-9, 87 8-9, 87 8-9, 87, 86 5-9, 78 5-9, 76 8-9; (6, 20, 1913), 89 4-9.
University of So. Calif., Coll. of P. & S., Med. Dept., Calif.; (6, 11, 1914), 92, 91 3-9, 90 4-9, 90 4-9, 90 3-9, 90 2-9, 89 4-9, 89 4-9, 89 2-9, 87 7-9, 87 5-9, 87 2-9, 86 8-9, 86 7-9, 86, 86, 85, 83 6-9, 83 2-9, 83 1-9, 82 8-9, 82 6-9, 81 3-9, 76 8-9, 75, 75; (6, 12, 1913), 88 2-9, 84 2-9.
Chicago Coll. Med. & Surg., Ill.; (6, 14, 1914), 81 8-9.
Coll. of Phys. & Surgs., N. Y.; (6, 11, 1902), 75 4-9.
Columbia Univ., Med. Dept., N. Y.; (6, 4, 1913), 76 8-9.
Cornell Univ. Med. Coll., N. Y.; (6, 15, 1910), 83 7-9.
Harvard Univ. Med. Sch., Mass.; (6, 20, 1912), 87, 82 8-9; (6, 28, 1911), 83; (1914), 82 1-9.
Johns Hopkins Univ. Med. Sch., Md.; (6, 10, 1913), 83 3-9; (6, 10, 1913), 81 4-9.
Medico-Chirurgical Coll., Pa.; (6, 5, 1914), 88 5-9.
Royal Coll. of Surgs., Ireland; (7, 31, 1908), 75 5-9.
Royal Univ. of Parma, Italy; (7, 10, 1900), 75 1-9 plus 14 years of practice—89 1-9.
Trinity Univ., Med. Dept., Canada; (6, 1, 1901), 65 6-9 plus 11 years of practice—76 6-9.
Univ. and Bellevue Hosp. Med. Coll., N. Y.; (6, 4, 1913), 83 4-9.
Univ. Coll. of Med., Va.; (5, 11, 1899), 93.
Univ. of Colo. Med. Sch., Colo.; (6, 3, 1914), 81 5-9.
Univ. of Oreg., Med. Dept., Oreg.; (5, 3, 1914), 85 7-9.

Failed Written Examination for Physicians and Surgeons.

Calif. Eclec. Med. Coll., Calif.; (5, 26, 1914), 72 4-9, 70 3-9, 68 2-9; (6, 3, 1914), 71 8-9; (5, 22, 1913), 64.
Coll. of Med. Evangelists, Calif.; (6, 17, 1914), 73, 72 4-9.
Coll. of Phys. & Surg., Calif.; (6, 4, 1914), 68 6-9; (6, 1, 1904), 68.
Cooper Med. Coll., Calif.; (4, 28, 1903), 73 2-9; (5, 8, 1907), 65 8-9; (1903), 60.
Hahnemann Med. Coll. of the Pacific, Calif.; (1913), 73 1-9.
Pacific Coll. of Osteopathy, Calif.; (6, 20, 1912), 72.
Stanford, Leland, Jr., Univ., Calif.; (5, 18, 1914), 73 1-9.
University of So. Calif., Coll. of P. & S., Med. Dept., Calif.; (6, 11, 1914), 73 5-9, 72 5-9, 70 1-9, 69 5-9.
Barnes Med. Coll., Mo.; (11, 16, 1911), 63.
Coll. of Med. & Surg., Ill.; (1, 18, 1911), 30 8-9.
Denver & Gross Coll. of Med., Colo.; (6, 1, 1908), 67 3-9.
Ky. Sch. of Med., Ky.; (7, 6, 1906), 68 7-9; (7, 14, 1906), 65 1-9; (7, 15, 1907), 48 2-9.
Medical Coll. of Ind.; (4, 24, 1902), 60 6-9 plus 9 years of practice—69 6-9.
Medico-Chirurgical Coll., Pa.; (6, 2, 1912), 69 5-9.
Meharry Med. Coll., Tenn.; (4, 22, 1913), 67 7-9.
Queen's University, Can.; (4, 28, 1914), 41 1-3.
Woman's Med. Coll. of Penn.; (5, 18, 1904), 70.

Passed Written Examination for Drugless Practitioners.

Am. Sch. of Osteopathy, Mo.; (6, 29, 1901), 75 5-7 plus 11 years of practice—85 5-7; (6, 27, 1901), 78 6-7; (6, 23, 1904), 78 4-7; (6, 8, 1914), 76 1-2.
Los Angeles Coll. of Osteopathy, Calif.; (1, 29, 1914), 78, 77 6-7, 76 6-7; (no date), 75 3-7.
Mass. Coll. of Osteopathy; (6, 3, 1910), 73 2-7 plus 2 years of practice—75 2-7.
Northern Inst. Osteopathy, Minn.; (8, 25, 1899), 65 3-7 plus 13—78 3-7.
Pacific Coll. of Osteopathy, Calif.; (no date), 77 4-7.
Still Coll. of Osteopathy, Iowa; (6, 14, 1906), 82 2-7.

Failed Written Examination for Drugless Practitioners.

Am. Sch. of Osteopathy, Mo.; (6, 8, 1914), 71.
Los Angeles Coll. of Osteopathy, Calif.; (6, 10, 1910), 72 1-7; (6, 12, 1914), 71 6-7, 69 2-7, 69 2-7, 68 5-7, 68 4-7, 57 2-7, 55 2-7; (1, 29, 1914), 69 1-7, 68 2-7, 62 1-7, 60 4-7; (1, 26, 1912), 55; (6, 4, 1914), 51 4-7; (1, 30, 1913), 46 4-7.
Northern Inst. Osteopathy, Minn.; (6, 27, 1901), 47 1-2 plus 12 years of practice, 59 1-2.
Pacific Coll. of Osteopathy, Calif.; (6, 20, 1912), 68 5-7.
Still Coll. of Osteopathy, Iowa; (6, 20, 1905), 65 1-7.

Certificates Granted to

One hundred and eighty-two reciprocity applicants and two honorably discharged U. S. surgeons.

New Licentiates—Medical Doctors.

Abbott, C. M. R.; Abbott, LeR. C.; Alexander, C. B.; Alexander, R. J.; Allen, John; Andrews, H. W.; Ashley, W. W.; Ashton, G. W.; Barbour, N. P.; Barkan, H.; Barker, Z. A.; Baxter, F. S.; Beck, H. R.; Behlow, W. W.; Bell, F., Jr.; Bemis, O. I.; Benedict, W. L.; Benson, S. L.; Bercovitz, N.; Berkeley, H. K.; Bishop, F. C.; Blatherwick, G. W.; Block, A.; Bogue, H. V.; Bonthius, A.; Bonoff, K. M.; Boody, F. J.; Bosworth, R. L.; Bransford, M. B.; Bull, E. C.; Burdick, W. N.; Burk, E. E.; Butler, F. A.; Butler, F. O.; Carey, G. H.; Cauthorn, F.; Cary, E. G.; Chadwick, B. C.; Choate, W. G.; Christal, C. H.; Citron, I. J.; Cleaver, J. M.; Clock, K. LeC.; Close, K. M.; Conroy, C. P.; Cooke, J. V.; Cowan, J. F.; Craig, J. B.; Crane, W. R.; Crisler, M. P.; Crook, H. W.; Crutcher, L. P.; Cummings, J. C.; Cunnane, P. J.; Cunningham, R. L.; Dabney, T. G.; Darragh, E.; Diehl, E. H.; Dienst, R. C.; Dieterle, K. L.; Dolley, F. S.; Dougherty, E. E.; Dunlap, F.; Dunn, A. B.; Dykes, J. P. H.; Edwards, F. A.; Ehlers, H.; Elsen, E. G.; Elliott, C. R.; Emmons, C. L.; Erkenbeck, J. W.; Evans, H. R.; Evans, J. G.; Felger, L.; Fewell, A. G.; Fisher, W. L.; Flannagan, L. E.; Forbes, H. S.; Foster, L. C.; Foster, W. D.; Fountain, E. R.; Franck, H. E.; Freeborn, J. A.; Frees, B. M.; Friedman, M.; Furness, G. B.; Gallagher, H. M.; Gardini, L.; Getzlaff, C. P.; Gilbert, W. H.; Gilliland, M. McG.; Goodrich, G. E.; Greene, J. V.; Greengo, C. G.; Groth, G. W.; Guidinger, W. R.; Haake, C. H. G.; Hagman, G. L.; Hammon, G. M.; Harding, H. W.; Hartman, S. T. L.; Hayden, B. F.; Hench, J. M.; Henderson, R. G.; Henry, R. V.; Hershman, F.; Herzer, F. E.; Hews, L. DeW.; Hews, R. H.; Hibben, J. S.; Hidy, K. W.; Hill, R. B.; Hoag, R. B.; Hodson, W. H.; Holleran, W. M.; Horton J. C.; House, L. C.; Humfreville, D. L.; Hund, E. J.; Hunt, V. C.; Hunter, M. G.; Hurst, S. T.; Iorio, D.; Jacquelin, S. S. de la R.; Jamieson, E.; Johnson, C. A.; Johnson, W. H.; Jones, F. C.; Juell, N. R. H.; Kaley, C. M.; Karn, B. R.; Keller, W. F.; Kittle, W. F.; Klotz, W. C.; Kuhns, F. H.; Larson, A. H.; Larson, C. F.; Lent, W. G.; Lesem, A. M.; Lewis, E. G.; Locke, E.; Lorimor, J. H. D.; Lund, J. L.; McCreery, R. L.; McGuffine, R. K.; McKee, W. C.; McKenna, W. J.; McMakin, W. B.; McManus, F. P.; McPheeters, E. R.; McPheeters, G. C. H.; Mace, L. R.; Marple, J.; Marshall, M. Y.; Marvin, L. B.; Matter, L. E.; Mattson, A. S.; Metcalf, W. B.; Meyers, A. E.; Middleton, G. W.; Miller, C. H.; Minney, G. M.; Misch, H. B.; Mock, D. C.; Moore, J. E.; Moore, J. J.; Moore, W. D.; Moore, W. McK.; Moore, W. O.; Morris, C. L.; Morrison, W. A.; Morse, J.; Mosher, C. N.; Moss, B. J.; Mueller, O. H.; Nast, E. H.; Nelson, C. V.; Nightingale, Z. E.; Norton, O. D.; Oliver, J. R.; O'Malley, G. M.; O'Reilly, E. F.; Osher, J.; Parker, T. A.; Patrick, M. A.; Phillips, G. W.; Phillips, M. H.; Pierce, G. W.;Pisor, O. P.; Poole, R. E.; Porter, G. S.; Post, J. O.; Pratt, G. H.; Pruett, J. F.; Raeder, O. J.; Rankin, A. H.; Raymond, A.; Ream, W. R.; Reed, W. A.; Rees, C. E.; Relihan, F. H.; Renfrew, F. C.; Roeder, G.; Rose, H. DeW.; Rose, L. M.; Rosencrantz, E.; Rosson, R. W.; Rowe, A. H.; Rulison, E. T.; Ryder, W. B.; Sandall, L. B.; Schneerer, T. C.; Scholz, A. M.; Schottstaedt, W. E. R.; Seeburger, K. E.; Selleck, E. E.; Shaw, J. H.; Shawk, W. L.; Shaynin, J.; Siefert, A. L. C.; Sloane, J. B.; Smith, A. P.; Smith, C. E.; Smith, M. B.; Smith, R. L. I.; Smith, W. E.; Snyder, A. D.; Spalding, J. B.; Sprague, S.; Spring, L. G.; Sproat, S. McC.; Stanton, F. E.; Steele, G. H.; Stevens, C. S.; Stevens, D. A.; Stolz, H. R.; Swackhamer, C. R.; Swetnam, C. R. K.; Tarleton, W. A.; Thomas, R. E.; Thomas, R. W.; Thompson, G. E.; Thorner, M.; Todd, E. B.; Todd, H. A.; Tompkins, G. N.; Tweedie, A. M.; Vanderhoof, H. W.; Waggener, H. A.; Walker, P. McH.; Walo, T. J.; Walters, C. M. C.; Wanderer, A. E. A.; Warner, M. F.; Waterman, O. M.; Waters, O.; Watters, E. M.; Weir, J. J.; Welsh, O. A.; White, W. M.; Williams, E. H.; Williams, L. J.; Wilmar, A. H.; Wilson, H. B.; Wolferman, A. G.; Woodard, D. S.; Young, C. S.

New Licentiates—Drugless Practitioners.

Armstrong, B. R.; Bartholomew, G. H.; Clark, C. E.; Eaton, M. W.; Hardy, C. B.; Hebb, F. J.; Huntington, G. L.; Lynd, N. R.; Lynd, W. B.; Metherell, W. A.; Perry, A. E.; Proctor, G. C.

NEW MEMBERS.

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Hall, Edwin H., Los Angeles.
Newton, E. Avery, Los Angeles.
Rogers, Alfred R., Los Angeles.
Terry, R. A., Long Beach.
Newman, W. H., Long Beach.
Williams, Edw. H., Los Angeles.
Reum, C. G., Los Angeles.

DEATHS.

McNulty, Fred. J. Yreka.
Foley, R. E., Stockton.
Huntington, Sam'l. David (died in Milwaukee).
Grimes, Warren V., Pacific Grove.
Lagan, Hugh, San Francisco.
Hammer, A. W., formerly of Arbuckle, Cal., died in Chicago, Ill.
Carico, J. W., Cloverdale.
Cook, Alonzo G., Long Beach.
Welch, Harriet J. A., San Francisco.
Stone, T. W., Los Angeles (died in Stockton, Cal.).
Keeney, Jas. Ward, San Francisco.

California State Journal of Medicine

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ENTERED AT SAN FRANCISCO, CAL. AS SECOND-CLASS MATTER

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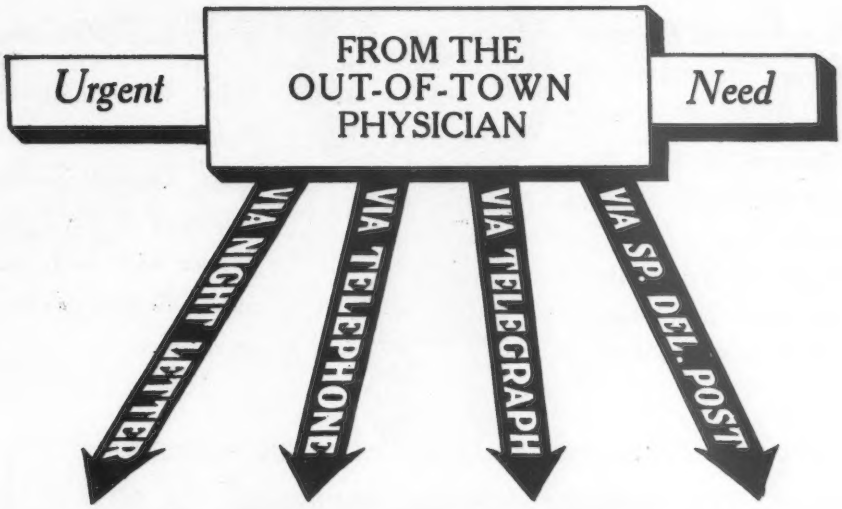

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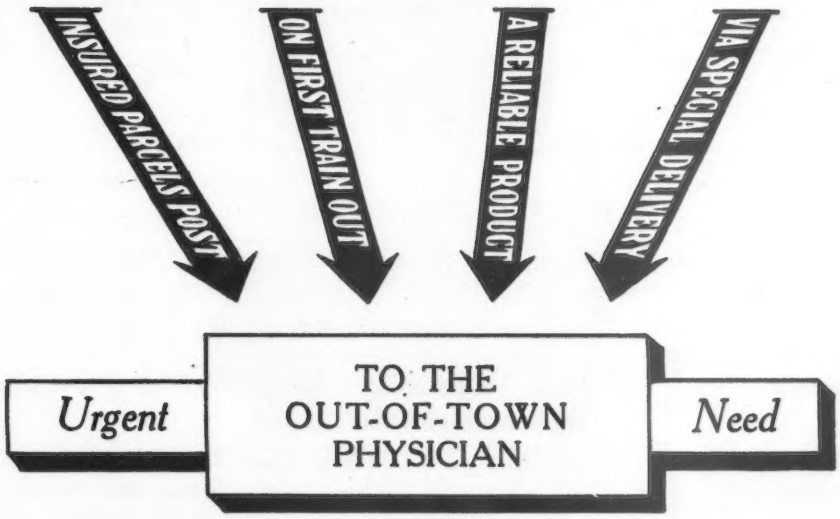

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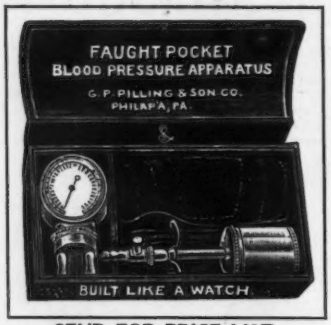

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CALIFORNIA STATE JOURNAL OF MEDICINE

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